

Receiving Report

Date: 12/7/11
 Supplier: B/E

Batch No: 7129769
 Part P/O: 24930

Packing Slip: Yes ☒ No ☐
 Invoice: Yes ☐ No ☒
 Receipt: Cash ☐ Cr ☒
 New Supplier Yes ☐ No ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐
 Waybill Attached: Yes ☐ No ☒
 Shipment Complete: Yes ☒ No ☐ N/A ☐
 QC18 Inspection ☐ N/A ☒
 Work Order ☐ N/A ☒

Discrepancies

Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number

Initials of Receiver

QC12

Production/Admin:
 Date _____
 Received/Costing _____
 Initial _____

Location _____



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO24930**

Purchase Order Date 7/9/2014

PO Print Date 7/9/2014

Page Number 1 of 3

Order From :

VU-BEA001

Ship To : DART AEROSPACE LTD

B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAKED

Contact Name

Vendor Phone 305-925-2600

Ship To Contact

Ship To Phone

Ship Via: FedEx PI collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

M129764

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
----------	--	------------------------	--------------------------------------	----	--------------------------------	---------------	----------------

1	MS21059L4	Nutplate	7/10/2014 Yes 7/10/2014		100.00 Each	\$0.85	\$85.00
---	-----------	----------	-------------------------------	--	----------------	--------	---------

GA

Line Total: \$85.00

2	AN526C832R8	Screw	7/10/2014 Yes 7/10/2014	FN	100.00 Each	\$0.15	\$15.00
---	-------------	-------	-------------------------------	----	----------------	--------	---------

328

Line Total: \$15.00

3	CR3213-4-05	RIVET	7/10/2014 Yes 7/10/2014	FN	300.00 Each	\$0.35	\$105.00
---	-------------	-------	-------------------------------	----	----------------	--------	----------

319

8/14/14

Note:

7/9/2014



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO24930**

Purchase Order Date 7/9/2014

PO Print Date 7/9/2014

Page Number 2 of 3

Order From :

B/E AEROSPACE INC
88289 EXPEDITE WAY
CHICAGO, IL 33172
USA

VU-BEA001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

305-925-2600

Ship To Contact

Ship To Phone

Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

Line Total: \$105.00

4 CR3523-4-3

Rivet

7/10/2014

100.00

Yes

7/10/2014

Each

\$1.30

\$130.00

Line Total: \$130.00

5 MS21250-03012

Bolt

7/10/2014

20.00

Yes

7/10/2014

Each

\$4.50

\$90.00

Line Total: \$90.00

7 AN929-12J

Cap

7/10/2014 FN

Yes

7/10/2014

15.00

Each

\$19.50

\$292.50

Line Total: \$292.50

Note:

7/9/2014



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
7	15	EA	AN929-12J		F00032268	NELSON AEROSPCE/PERM	52930		


Jason Lewis
Vice President of Quality

07/09/14

PERMASWAGE

PERMASWAGE - Nelson Aerospace
A Designed Metal Connections, Inc. Company
10310 Norris Avenue
Pacoima, CA 91331
Ph: 818-686-0900
Fax: 818-686-0181

Pack Slip: 56086



Sales Order: 30483



Page: 1 of 1

Customer Packing Slip

Ship To:

B/E AEROSPACE CONSUMABLES MANAGEMEN
9835 NW 14TH ST
MIAMI FL 33172
USA

Verify AES requirements prior to shipment.

Sold To:

B/E AEROSPACE CONSUMABLES MANAG
10000 NW 15TH TERRACE
MIAMI FL 33172-2756
USA

Verify AES requirements prior to shipment.

Fax: 305-507-7192

Ship Date: 5/16/2014

Ship Via: FEDEX GROUND

F.O.B.: EX WORKS

Cust P.O.: 0RZZ47

Salesperson: JIM THOMPSON

FEDEX GRD # 0331-0149-0

RELEASE # WU2V04ZZ47

400

367

AN929-12J

13

F00032268

CAP ASSEMBLY

Sale Order / Line / Release: 30483 / 1 / 1

Customer PO Number: 0RZZ47

Certificates Required:

Standard Certification: Yes
Full Certifications: No

First Article Inspection: No
Chemical/Physical: No

Material Certificate: No
FAIR per AS9102: No

Product is compliant to DFAR 252.225-7009

INSERT # F00022911-23632

NUT # F00030229-33736

1 Box 10x8x6 19 lbs

3 Boxes 10x8x6 28 lbs ea

AN, MS, AS, NAS and other industry standard parts controlled by ECCN 9A991 and HTS 8803.30.00.00

Products listed have not been exposed to mercury or mercury compounds during the manufacturing process.

!! MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY PERMASWAGE - NELSON AEROSPACE SALES @ 818-686-0900 !!

WE HERBY CERTIFY THAT ALL PROVISIONS OF THE FAIR LABOR STANDARDS ACT ON 8/25/83 AS AMENDED HAVE BEEN FULLY COMPLIED WITH IN THE MANUFACTURE, PRODUCTION OR PURCHASE OF GOODS LISTED HEREON. ALL ITEMS ARE SUBJECT TO A 100% RESTOCKING CHARGE. ALL PAST DUE ACCOUNTS SHALL BEAR INTEREST AT THE RATE OF 1 1/2% PER MONTH (18% PER ANNUM).

Certification of Conformance

NELSON AEROSPACE WARRANTS THAT THE ITEMS OF THIS SHIPPER WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP AND, AS SET FORTH ON THE MATERIAL CERTIFICATION FORM, ACCOMPANYING THE ITEMS OF THIS INVOICE, ARE IN CONFORMITY WITH CONTRACT REQUIREMENTS AND SPECIFICATIONS, GOVERNMENT OR OTHERWISE. NELSON AEROSPACE DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND OF THE FITNESS FOR A PARTICULAR PURPOSE. THE LIABILITY OF NELSON AEROSPACE IS EXPRESSLY LIMITED TO REPLACEMENT OF ANY ITEM WHICH IS REJECTED BECAUSE OF A DEFECT IN MATERIAL OR WORKMANSHIP. SUCH REPLACEMENT SHALL CONSTITUTE SATISFACTION OF ALL LIABILITY NELSON AEROSPACE MAY HAVE IN CONNECTION WITH SUCH ITEM, WHETHER LIABILITY IS BASED UPON CONTRACT RIGHTS, NEGLIGENCE OR OTHERWISE, AND IN NO EVENT SHALL NELSON AEROSPACE BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES. FURTHER, NELSON AEROSPACE MUST BE NOTIFIED OF A REJECTION OF AN ITEM WITHIN 30 DAYS AFTER RECEIPT BY THE CUSTOMER.

Country of Origin: MADE IN THE USA

BY RECEIVING DELIVERY OF THE GOODS COVERED BY THIS PACKING SLIP, BUYER EXPRESSLY ASSENTS TO THE TERMS AND CONDITIONS SET FORTH.

Manager of Quality Assurance or Designee



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

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Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
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Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


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FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
5	20	EA	MS21250-03012		288585	3V FASTENERS	1ER65		


Jason Lewis
Vice President of Quality

07/09/14

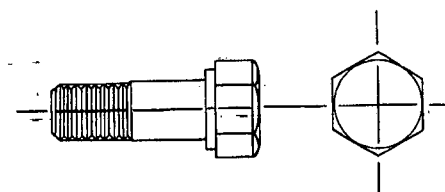


3V™ FASTENERS

PRECISION AEROSPACE FASTENERS

a PEM® Company

320 Reed Circle • Corona, CA 92879
Tel: 951-734-4391 • FAX: 951-734-9488



TEST CERTIFICATION

Cert # : 62040 Cert Date: 10/26/13 LOT #: 288585 Page: 1
MFG DATE: 07/22/13

Cust # : 141327

P.O. #: OPHL30

Customer : B/E AEROSPACE

P.O. Qty: 10000

Ship To : MIAMI, FL.

Ship #: 1789072

Ship Qty: 9350

Part #: MS21250-03012

MFG. Part #: NASM21250-03012 REV.1

Material Spec: AMS6322N

Heat #: 10244211

Type: 8740

Mill, Vendor: CHARTER STEEL/WIRETECH

Code: 14179

Procure Spec: NASM8831 REV.4

Shear per NASM1312-13 or -20

Minimum Requirement: 6100 LBS

Load	Load	Load	Load	Load
---	---	---	---	---
6307	6249	6234	6265	6291
6236	6230	6335	6287	6216

Hardness per NASM1312-6, ASTM E 18 or E 384

Minimum Requirement: 39-43 HRC.

41.0	41.0	41.0	41.0	41.0
41.0	42.0	42.0	42.0	42.0
42.0	42.0	42.0	43.0	43.0

Metallurgical Tests

Hardness: N/A

Grain Size: N/A Decarb: NONE

Metallurgical, Special Process and Subcontracted Test Information
THREADS INSPECTED PER MIL-S-8879C N.3, AS8879D OR MIL-S-7742D
MACRO AND MICROSTRUCTURE SATISFACTORY 5 PCS
HEAT TREAT PER AMS2759/1E BY QUALITY HEAT TREAT #131285
CAD PER AMS-QQ-P-416C TYII CL.2 BY ACTIVE #132987
100% MAG PER ASTM E 1444/E1444M-12 BY ACTIVE #133258
HYDROGEN EMBRITTLEMENT PER NASM 1312-5 REV.1 BY ATLAS #107874

Fatigue Life per NASM1312-11

Minimum Requirement: 65000

Average Cycles: 101704

Cycles :	82211	71458	75063	64946	130000
Failure:	THD	THD	THD	THD	NONE
Cycles :	130000	85338	126594	107908	130000
Failure:	NONE	THD	THD	THD	NONE
Cycles :	123375	86912	127395	82659	0
Failure:	THD	THD	THD	THD	

B/E Aerospace, Inc. - Consumables Management
Self Release

3V
LAB
05

Signature and Stamp:
Date: 10/26/13

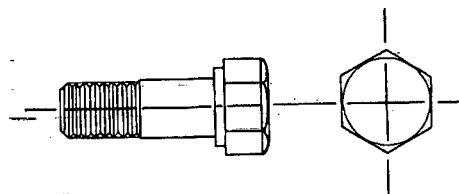
**3V™ FASTENERS**

PRECISION AEROSPACE FASTENERS

a **PEM®** Company

320 Reed Circle • Corona, CA 92879

Tel: 951-734-4391 • FAX: 951-734-9488

**TEST CERTIFICATION**

Page: 2

Customer: B/E AEROSPACE

LOT #: 288585

Cert #: 62040


Tensile per NASM1312-8

Minimum Requirement: 3910 LBS

Load :	4260	4240	4238	4198	4261
Failure:	THD	THD	THD	THD	THD
Load :	4407	4434	4471	4401	4400
Failure:	THD	THD	THD	THD	THD

THIS TEST CERTIFICATION SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF 3V FASTENERS CO., INC. TESTING LABORATORY.
THIS CERTIFICATION SHALL NOT BE USED BY THE CUSTOMER TO CLAIM PRODUCT ENDORSEMENT BY ANY AGENCY OF THE U.S. GOVERNMENT.
3V FASTENERS CERTIFIES THAT THE PRODUCT SHIPPED ON ABOVE PURCHASE ORDER WERE MANUFACTURED, INSPECTED AND TESTED IN COMPLIANCE WITH ALL APPLICABLE PRINTS AND SPECIFICATIONS. ALL SUPPORTING DOCUMENTATION IS ON FILE AT 3V.
ACCREDITED TO AS9100C, ACCREDITED ISO 9001:2008.
SAI GLOBAL CERT-0049384, CAGE CODE 1ER65, COO:USA
BAE APPROVAL BAE/AG/30148/CAL, AIRBUS APPROVAL 30085.
THE RAW MATERIAL USED TO MANUFACTURE THESE PARTS WAS MELTED IN THE USA OR A QUALIFYING COUNTRY AND COMPLIES WITH THE APPLICABLE SECTIONS OF DFARS 252-225.

QUALITY ASSURANCE LAB SUPERVISOR


ROBERT CANTILLO**B/E Aerospace, Inc. - Consumables Management
Self Release**Signature and Stamp: Date: 10/26/13**3V
INSP
06**

3V FASTENERS CO., INC.		FINAL INSPECTION REPORT		PG 1 OF 2	
PART NUMBER	REV.	LOT #	LOT SIZE	SAMPLE SIZE	
MS21250-03012	1	288585	9495	200020	
DESC: BOLT TEN EXT WRENCH 12PT		PRINT NUMBER	SAMPLING PLAN		
FLANGED 10/32 X 1.190		NASM21250	NASM8831 TBL XII, S-3		

PRINT CHARACTERISTIC	PRINT REQ.	ACTUAL	ACC.	REJ.	GAGE EQUIPMENT
**HEAD MARKING	MS21250 LOGO	MS21250 LOGO	✓		VISUAL/10X
**LENGTH ±.010	1.200-1.180	1.200-1.195	✓		CALIPER
**GRIP LENGTH ±.010	.760-.740	.757-.754	✓		CALIPER/OPT.COMP.
**THREAD PITCH DIA.	.1697-.1674	.1692-.1683	✓		TRI-ROLL
**THREAD FUN. DIA.	.1697-.1674	.1697-.1686	✓		TRI-ROLL/RING GAGE
**THREAD MAJOR DIA.	.1875-.1840	.1865-.1841	✓		MICROMETER
**THREAD ROOT RADIUS	.0056-.0047	.0053-.0047	✓		OPTICAL COMPARATOR
**THREAD MINOR DIA.	.1539-.1497	.1522-.1515	✓		TRI-ROLL/OPT.COMP.
**INCOMPLETE THREADS	.062 MAX.	<.062	✓		OPTICAL COMPARATOR
B GRIP DIAMETER	.1895-.1885	.1888-.1885	✓		MICROMETER/OPT COMP
A COLLAR DIA.	.350-.340	.350-.345	✓		CALIPER
Q LAND THICKNESS	.065-.045	.050-.048	✓		OPTICAL COMPARATOR
**COLLAR ANGLE	47°-43°	47°-46°	✓		OPTICAL COMPARATOR
R RADIUS UNDER HEAD	.041-.031	.034-.032	✓		OPTICAL COMPARATOR
H HEAD HEIGHT	.275-.255	.261-.256	✓		CALIPER/MICROMETER
f WRENCH POINT DIA.	.2898-.2780	.2830-.2800	✓		CALIPER
W WRENCH FLAT DIA.	.251-.245	.249-.247	✓		CALIPER/MICROMETER
**CHAMFER TOP OF HEAD	32°-28°	32°-31°	✓		OPTICAL COMPARATOR
**CHAMFER DIA TOP OF HD	.250-.235	.249-.244	✓		OPTICAL COMPARATOR
12 FIN THD, B/S, RAD, GRIP	32 Ra MAX.	<32RA	✓		COMPARATOR GAGE/10X
12 FIN. ALL OTHERS	125 Ra MAX.	<125RA	✓		COMPARATOR GAGE/10X
10 BURRS/SHARP EDGES	.016-.003	.016-.003	✓		VISUAL/10X

INSP. PERFORMED & ACCEPTED BY:	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="text-align: center;"> 3V INSP 06 </div> </div>
REPORT PREPARED BY: DAN HENSON	DATE: October 25, 2013 5 DATE: February 8, 2013 144351

FORM 11-1, REV 5 03/17/98

NOTES: MFG DATE; 7/22/13
 ** = PRINT DETAIL REF NASM8831
 * = PER INCH OF LENGTH

FORM 11-2, REV 5 03/17/98



WireTech, Inc.

6440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4933
Fax (323) 721-2738

SOLD TO

3V Fasteners
320 Reed Circle
Corona, CA 92879-1349
USA



WORK ORDER
100737

14179

HEAT NO.
10244211

SALES ORDER / RLS
850767 / 1

ISO 9001-2000 REGISTERED



MECHANICAL TESTING
CERT # 911.01

CERT# 911.01

CUSTOMER P.O. 107050	CUSTOMER PART .2810-.2820 8740	QUANTITY 1,264 Lbs	CARRIERS 1	LADING NO 00104763	SHIPMENT DATE 07/09/2013			
SPECIFICATION T338740-102815A A-8740, AQ, SKFG, CHQ WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.281/0.282 Specifications: AMS 2301K, AMS6322N, MIL-S-6049A, AMEND. 1, AMS-S-6049-A, M-001-AL								
CERTIFICATION REQUIREMENTS								
Chemical Properties								
C .39	Si .27	Mn .87	P .012	S .009	Cu .07	Ni .46	Cr .56	Mo .21
Physical Properties								
Grain Size Jominy 1 6 J5=54	Jominy 2 J8=48	Jominy 3 J10=45	Inclusions Macro S2-R1-C2	Cleanliness GOOD	Mill Source F&S=0	Charter		
Country of Origin USA - DFAR Compliant								
Mechanical Properties								
TEST	UNITS					Results		
Tensile Strength	KSI	6.6	1.125 Lbs			77.1		
Yield Strength	KSI		2.185 Lbs			65.5		
% Elongation	%	7-10-13	3.176 Lbs			28.6		
% Reduction of Area	%		4.200 Lbs			76.7		
Rockwell Hardness B Scale	HRB (s)		5.288 Lbs			82		
Decarb (Total)	In		6.290 Lbs			0.00		
			1,264 Lbs					

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 45, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. *Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

"LATEST REVISIONS OF ASTM"

Material is free of mercury, radium, or alpha contamination.

Handwritten signature



CHARTER STEEL

A Division of
Charter Manufacturing Company, Inc.

EMAIL



14179
1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
FAX (262) 268-2570

CHARTER STEEL TEST REPORT

Reverse Has Text And Codes

Wiretech Incorporated
6440 East Canning Street
Attn: Andre Stephan
Los Angeles, CA-90040

Cust P.O.	6998-3
Customer Part #	8740C1A090-C-R
Charter Sales Order	70039867
Heat #	10244211
Ship Lot #	4199759
Grade	8740 R SK FG AQ 23/64
Process	HRSA
Finish Size	23/64

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Test Results of Heat Lot# 10244211

Lab Code: 7388	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
CHEM	.39	.87	.012	.009	.270	.46	.56	.21	.07	.010	.003
%Wt											
	AL	N	B	TI	NB						
	.026	.0070	.0001	.002	.002						
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM12
	56	56	56	56	54	52	50	48	47	45	43
	JOM14	JOM16	JOM18	JOM20	JOM24	JOM28	JOM32				
	41	38	37	36	34	32	31				

JOMINY SAMPLE TYPE ENGLISH = C
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1
AMS 2301 FREQUENCY AVERAGE = .00 AMS 2301 FREQUENCY INDIVIDUAL = .00
AMS 2301 SEVERITY AVERAGE = .00 AMS 2301 SEVERITY INDIVIDUAL = .00
CHEM. DEVIATION EXT.-GREEN =

Test Results of Rolling Lot# 1093125

REDUCTION RATIO = 299:1

Test Results of Processing Lot# 4198414, 4199759

	# of Tests	Min Value	Max Value	Mean Value	
TENSILE	1.0	87.9	87.9	87.9	TENSILE LAB = 0358-02
REDUCTION OF AREA	1	70	70	70	RA LAB = 0358-02
ROCKWELL B	1	78	78	78	RB LAB = 0358-02

NUM DECARB = 1 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .001
CP SPHERO % LAB = 0358-02 NUM SPHERO = 1 SPHERODIZATION = 87.5

Specifications:

Manufactured per Charter Steel Quality Manual Rev 9,08-01-09
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = AMS6322N/AMS2301K/COP3010M/BS2S147:1976 CHEM ONLY Revision = Dated =

Additional Comments:

Charter Steel
Saukville, WI, USA



Page 1 of 1

This MTR supersedes all previously dated MTRs for this order

Janice Barnard
Manager of Quality Assurance
04/04/2013

Rem: Load1,Fax0,Mail0

14179

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:



Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
.	.	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/15.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.





3305 BURTON AVE.
BURBANK
CALIFORNIA 91504
323-849-6604
818-840-8212
FAX 818-953-5058
www.qualityht.com

CERTIFICATION

131285

CERTIFICATION NUMBER

429500

SOLD TO
3 V FASTENERS COMPANY INC
320 REED CIRCLE
CORONA, CA 92879



SHIP TO
3 V FASTENER COMPANY INC
320 REED CIRCLE
CORONA, CA 92879

8-21-13
TC

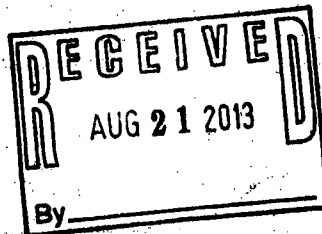
CUSTOMER NUMBER 0001433	DATE RECEIVED 08/14/13	CUSTOMER P.O. NUMBER 00849379	CUSTOMER SHIPPER 131285/131286
----------------------------	---------------------------	----------------------------------	-----------------------------------

QUANTITY	WEIGHT	PART NUMBER / DESCRIPTION
10277	141	MS21250-03012, 10/32 X 1.190 12PT HD ROUTER#288585-40.00, HT TO 180 KSI MIN FATIGUE RATED, PO#00849380

MATERIAL	HARDNESS	MAX-CROSS SECTION	CASE DEPTH	CORE HARDNESS
8740	40-43 HRC	.190		

SPECIFICATIONS AMS 2759/1 E PYROMETRY PER AMS 2750 D ASTM A 380-06 GLASSBEAD BLAST ONLY

PROCESS	SPEC TEMP	SPEC TIME	EQUIP.	ACT TEMP	TIME IN	TIME AT-HEAT	TIME OUT	ATMOS DEWPT	Q-MED & TEMP	DATE
RUN PARTS IN FLAT BASKETS NO MORE THAN 1 INCH DEEP AND NO MORE THAN 100 LBS PER BASKET. THIS WILL BE 2 PANS MAX PER BASKET, 2 BASKETS MAX. RUN A METAL TUBE IN THE BOTTOM BASKET TO SUPPORT THE TOP BASKET, AND ALLOW OIL FLOW FOR PROPER QUENCHING.										
WASH			QW1		.25	Y				08/15
AUSTENITIE	1550	1:05	Q39	1550	21:55	22:20	23:25	.40	OIL	08/15
WASH			QW1		.17	Y				08/16
TEMPER 15	800	3:30	Q28	800	09:45	10:15	13:45	AIR	A/C	08/16
VERIFY			VERFY		.01	Y				08/20
GLASSBEAD			GLASS		3.00	Y				08/20



HARDNESS: 40-42 HRC QTY TESTED: 50 QTY ACCT: 10277 QTY REJT: 0

SPECTOR
DANIEL VELAZQUEZ

DATE
08/21/13

QUALITY MANAGER
JUAN ALCALA for JOSE VELAZQUEZ

This Process Certification covers thermal processing and hardness testing only. No particular mechanical properties of any material should be assumed, or are implied, as a result of the thermal processing and/or hardness testing cited on this Process Certification. Material processed in a mercury-, radium- and asbestos-free environment. Unless otherwise specified above, for all AMS material specifications, no qualification or periodic testing has been performed. ALL FURNACES CERTIFIED TO MEET THE REQUIREMENTS OF AMS-H-682, CURRENT REVISION. HARDNESS TESTING PERFORMED TO THE LATEST REVISION OF ASTM E 399, ASTM E 10, ASTM E 110, ASTM E 18, ASTM E 140 AND ASTM A 370.

"Sample (s): Customer Supplied"

TEST REPORT

107874

10-12-13



ATLAS TESTING LABORATORIES, INC.

9820 6th Street, Rancho Cucamonga, CA 91730

909-373-4130

FAX 909-373-4132

TG 21



PO# 107874

DATE: 10/11/13

ATL# 342832

CLIENT: 3V FASTENERS
ATTN: NICOLE MATTHESON
320 REED CIRCLE
CORONA, CA 92879-1349

PN# MS21250-03012
ROUTER# 288585
LOT# 9538
QTY: 5 PCS.

ALLOY: 8740

SPEC: NASM 8831 REV 4, MS 21250 REV. NEW

HYDROGEN EMBRITTLEMENT: (METHOD - AMS-QQ-P-416C, NASM 1312-5 REV. 1)

Test Temperature:	Room Temperature
Type of Specimen	Fastener
Actual Size:	.1900-32
Load (lbs):	3,324 lbs.
Pan Load (lever arm ratio 16 to 1):	207.7 lbs
Test Duration:	23.1 hrs.
Results:	No Failure / Test Discontinued
Number of samples tested:	Five (5)
Minimum Requirements:	Stress 85% of 3,910 lbs. for 23.0 hrs.

ATE# 927-A

MAGNETIC PARTICLE INSPECTION: (METHOD - ASTM-E1444/12)

Five (5) samples tested all Satisfactory

Remarks: Conforms to requirements.

Respectfully Submitted:

Sharon A. Norton, Quality Assurance

Date: 10/11/13

ATLAS TESTING SUBMITS THIS REPORT AS THE CONFIDENTIAL PROPERTY OF OUR CLIENT. REPRODUCTION IS AUTHORIZED, BUT ONLY IF IN FULL. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT INFORMATION TO THIS REPORT MAY BE PUNISHABLE UNDER FEDERAL LAW.

578284



SOLD TO: 3V FASTENERS
320 REED CIRCLE
CORONA, CA 92879
(951) 734-4391

TERMS: net 30

DATE CERTIFIED: 10-23-2013	DATE RECEIVED: 10-09-2013	DATE TESTED: 10-23-2013	CUSTOMER P.O. 133258/00856361	PACKAGING METHOD 3 Pan
9538 126#	MS21250-03012 10/32 X 1.190 MAG 12PT HD R/N# 288585-150.00			
MATERIAL / HEAT TREAT / STATUS OF PARTS	TOTAL			

PASSIVATE

Other

MAGNETIC SPECIFICATIONS ASTM-F-1444/F1444M-12 NASM8831

Acceptance Criteria

[illegible]

Reason Rejected

FLUORESCENT PENETRANT SPECIFICATIONS

Acceptance Criteria

[illegible]

Reason Rejected

QC NDT Level 2: REYES HERNANDEZ

This test certification shall not be reproduced except in full. This certification shall not be used by the customer to claim product endorsement by any agency of the U.S. government. Active Magnetic Inspection certifies that the product shipped on the above certification were processed, inspection & tested in compliance with all applicable prints & specifications. All supporting documentation is on file at Active Magnetic Inspection.

Peppercorn

CERTIFICATION / TEST / REPORT



577472

9356 1/2 San Fernando Road, Unit B • Sun Valley, CA 91352
(818) 504-0677 • FAX (818) 504-1559

SOLD TO: 3V FASTENERS
320 REED CIRCLE
CORONA, CA 92879
(951) 734-4391

TERMS: net 30

DATE CERTIFIED: 10-08-2013	DATE RECEIVED: 10-08-2013	DATE TESTED: 10-08-2013	CUSTOMER P.O. 132987/00855521	PACKAGING METHOD 3 Pan	
9538 126#	M521250-03012 1/32 X 1.190 CAD PLATE 23HRS POSTBAKE SURCHARGE 10% 12PT HD J/N# 288585-130.00				
<div style="border: 1px solid black; padding: 10px; text-align: center;">RECEIVED OCT 08 2013 By _____</div>					

MATERIAL / HEAT TREAT / STATUS OF PARTS 8740/RC 41-43

TOTAL

PASSIVATE PostBake 23HRS 375F+-25F

Other Cad Plate Type II Class 2 AMS-DQ-P-416C

MAGNETIC SPECIFICATIONS

Acceptance Criteria

Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected

Reason Rejected

FLUORESCENT PENETRANT SPECIFICATIONS

Acceptance Criteria

Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected	Accepted	Rejected

Reason Rejected

QC NOT Level 2: REYES HERNANDEZ

This test certification shall not be reproduced except in full. This certification shall not be used by the customer to claim product endorsement by any agency of the U.S. government. Active Magnetic Inspection certifies that the product shipped on the above certification were processed, inspection & tested in compliance with all applicable prints & specifications. All supporting documentation is on file at Active Magnetic Inspection.

CERTIFICATION / TEST / REPORT



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
3	300	EA	CR3213-4-05		87594700	CHERRY AEROSPACE SAN 11815			


Jason Lewis
Vice President of Quality

07/09/14

**CHERRY®****AEROSPACE**

SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA**PACKING LIST**Order No: S0321684
Order Date: 04/29/08
Print Date: 12/29/11

Page: 1



Sold-To: 10015341

Ship-To: 19000244

S O L D T O	B/E AEROSPACE
	PO BOX 025263
	MIAMI, FL 33102-5263
	USA

S H I P T O	B/E AEROSPACE INC C.M.
	10000 N.W. 15TH TERRACE
	MIAMI, FL 33172
	USA

Salesperson (s):110

Purchase Order: 0EZ593



Credit Terms: Net 30
Net 30

Ship Via: YRC

FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0
IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE
DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS
DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.
*****BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3
AIRBUS APPROVAL# 30114
*****GOODS OF UNITED STATES ORIGIN
*****FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010
TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

Ln	Item Number	Site T LocationLot/Serial	Qty Open Qty to Ship	UM	Promised Shipped	
3	CR3213-4-05 Customer Item: S2906-4-5 NAS9301BNS-4-05 NAS9301B-4-05 M7885/2-4-05 * IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT I * PREFERENCE FOR DOMESTIC SPECIALTY METALS 	1600 E0803 87594700	33021.0	EA	04/15/12	

TEST REPORTS ENCLOSED - DO NOT DESTROY

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

Packing List

**CHERRY®****AEROSPACE**

SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA**PACKING LIST**Order No: S0321684
Order Date: 04/29/08
Print Date: 12/29/11

Page: 1



Sold-To: 10015341



Ship-To: 19000244

S O L D T O	B/E AEROSPACE
	PO BOX 025263
	MIAMI, FL 33102-5263
	USA

S H I P T O	B/E AEROSPACE INC C.M.
	10000 N.W. 15TH TERRACE
	MIAMI, FL 33172
	USA

Salesperson (s):110

Purchase Order: 0EZ593

Credit Terms: Net 30
Net 30

Ship Via: YRC

FOB: Origin - Collect

Remarks:

IF UNDER 150# SHIP FEDEX GROUND COLLECT ACCOUNT# 0331-0149-0
 IF OVER 150# SHIP FED EX NATIONAL ACCOUNT# 018757 - DO NOT INSURE
 DO NOT PREPAY AND ADD TO ANY OF THE ABOVE METHODS
 DO NOT SHIP EARLIER THAN TWO (2) WEEKS PRIOR TO DUE DATE, UNLESS SPECIFIED.

 BRITISH AEROSPACE APPROVAL# BAe/AG/30158/MAA to BAe/AG/QC/SC1 PART 3
 AIRBUS APPROVAL# 30114

GOODS OF UNITED STATES ORIGIN

FASTENERS ECCN: 9A991d SCHEDULE B# 8803300010
 TOOLS ECCN: EAR99 SCHEDULE B# 8467290095

Ln	Item Number	Site T LocationLot/Serial	Qty Open Qty to Ship	UM	Promised Shipped	
3	CR3213-4-05 Customer Item: S2906-4-5 NAS9301BNS-4-05 NAS9301B-4-05 M7885/2-4-05 * IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT I * PREFERENCE FOR DOMESTIC SPECIALTY METALS E0803 87594700	1600	33021.0	EA	04/15/12	

TEST REPORTS ENCLOSED - DO NOT DESTROY

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

CERTIFICATION**ATTENTION: PURCHASING DEPARTMENT**

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

Quality Assurance Representative

Signed

 DIANE ROA



CHERRY AEROSPACE
SPS Fastener Division, a PCC Company

1224 East Warner Avenue
Santa Ana, CA 92707-0157



Accredited
Nadcap

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report CherryMax® Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.:	87594700
CR3213-4-05	AB	PS-CMR-3000	R	Lot Size:	35,000
CR3213PR-4-05	AB	PS-CMR-3000	R	MFG. Date:	December 29, 2011
** See 2nd Page for the Customer Parts					

ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87547589	A68094	QQ-A-430/5056	MIL-C-5541 CLEAR CL1A	None
Stem	87534986	A68728	AMS6322 / 8740ST	QQ-P-416/T2CL2/CAD PL	Par-90
Collar	00000000	A68995	A-286 / AMS5731	Passivate per AMS2700	None

W.O. #: 5462173

Final Lube: None

QUALITY CONFORMANCE/ACCEPTANCE RESULTS

MIN REQ'D SAMPLE SIZE SPECS	INSTALLED SHEAR		TENSION		SPINDLE RETENTION		DISASSEMBLY
	664		285		125		10
	8	N/A	8	N/A	8	N/A	5
	C-N-M	B	C-N-M	B	C-N-M	B	C-N-M
RESULTS	959		357		262		85
	973		343		252		91
	993		361		250		72
	1004		354		248		42
	985		352		245		47
	1002		358		255		
	984		353		250		
	1008		351		238		

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
20	EXAMINATION	PASS	20	INSTALLATION (Min and Max Grips)	PASS

Comments:

Blind Fastener

Tr. Rev: -
Rev. Date: 12/29/2011

Inspector
I Reyes

Q Code
V09



The parts contained in this shipment have been manufactured and inspected in accordance with TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Fasteners of similar dimensional properties may have widely varying performance and metallurgical properties. Substitution of parts may only be done if acceptable to or approved by the Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.

Form No. 1141-10-75 Rev. F 07/15/10 CR10-0832

Page 1 of 2

KAISER ALUMINUM

SANTA ANA, CA. 92707-0157

A68094

CHEM COMP	ALLOY	SILICON		IRON		COPPER		MANGANESE		MAGNESIUM		CHROMIUM		OTHERS	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
	5056		0.30		0.40		0.10	0.05	0.20	4.50	5.60	0.05	0.20	0.05	0.15
		NICKEL		ZINC		TITANIUM		LEAD		BISMUTH					
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
				0.10											
ALUMINUM REMAINDER															

**KAISER
ALUMINUM**
FABRICATED PRODUCTS

Best in Class

Revised Certification
CERTIFIED TEST REPORT
<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical
600 Kaiser Drive
Heath, OH 43056-1088
740-522-1151

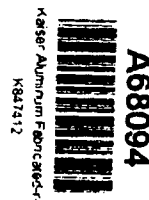
Specifications

QQA-430 REV C

Miscellaneous Notes

Made in USA

Mercury is not a normal contaminant in aluminum alloys. Neither mercury nor any of its compounds were utilized by Kaiser Aluminum in the manufacture of this material. Actual (Act) chemical composition is from representative samples taken during the ingot casting process. Independent chemical analysis will vary from these values because of natural variation in the process and testing error. This test report shall not be reproduced, except in full, without the written approval of Kaiser Aluminum. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law. Chemical analysis performed in accordance with ASTM E 1251-07. The Newark facility is AS9100B:2004 approved. The Newark Laboratory is NADCAP approved for chemical testing (OES).



SEP 21 2011



CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

Warren Marcucci, Technical Manager

Warren Marcucci

Plant Serial: 18462

Kaiser Order Number: 624533840

Line Item: 1



WireTech, Inc.

6440 E. Canning Street
Los Angeles, CA 90040
Phone (323) 722-4933
Fax (323) 721-2738

SOLD TO

CHERRY AEROSPACE LLC
1224 E. WARNER AVENUE
SANTA ANA, CA 92705-5414
USA

CERTIFICATION

WORK ORDER
086888


HEAT NO.
10140400
SALES ORDER / RLS
841819 / 1
ISO 9001-2000 REGISTERED



MECHANICAL TESTING
CERT # 911.01

CERT# 911.01

CUSTOMER P.O. VPO92778	CUSTOMER PART M272.1040	QUANTITY 2,132 Lbs	CARRIERS 2	LADING NO 00093508	SHIPMENT DATE 11/11/2011			
<p>SPECIFICATION C208740-101040A A-8740, AQ, SKFG, CHQ WIRE, SEAM & DECARB FREE, SAIP Zinc Phosphate, Lime & Stearate Coating, Size:0.103/0.105 Specifications: AMS2301K, AMS6322N, MIL-S-6049A, AMEND1, ASTM-A-547, AMS-S-6049-A, M 272.1040 REV. R</p>								
CERTIFICATION REQUIREMENTS								
Chemical Properties								
C	Si	Mn	P	S	Cu	Ni	Cr	Mo
.39	.25	.85	.009	.007	.09	.43	.54	.20
Physical Properties								
Grain Size	Jominy 1	Jominy 2	Jominy 3	Inclusions	Macro	Cleanliness	Mill Source	
6 J5=53	J8=46	J10=43	S2-R1-C2	GOOD	F&S=0	Charter		
Country of Origin								
USA - DFAR Compliant								
Mechanical Properties								
TEST	UNITS	Results						
Tensile Strength	KSI	134.5						
Yield Strength	KSI	114.3						
% Elongation	%	8.5						
% Reduction of Area	%	61.5						
Rockwell Hardness C Scale	HRC	29						
Decarb (Total)	In	0.00						



NOV 16 2011

Merchandise covered by this invoice is warranted to be free from defects in workmanship or material but not for any specific length of time, type or measure of service. No claim for allowance will be recognized unless presented in writing within 10 days time after receipt of material. Our maximum liability for any claim predicated upon defective merchandise is limited to replacement of it, or to repayment of it, or to repayment of the purchase price thereof, as we elect. Material cut to specific length or size cannot be returned for credit and request for cancellation of such orders will not be considered if manufacture has been commenced. Buyer, by acceptance of the merchandise covered by this invoice, agrees to the foregoing terms and conditions and those set forth on the reverse hereof. The recording of false, fictitious or fraudulent statements or entries on this document may be punished as a felony under Federal statutes including Federal law, Title 18, Chapter 47.

REPRODUCTION OF THIS CERTIFICATION IS NOT ALLOWED UNLESS IN FULL.

Wire Tech, Inc. metallurgical laboratory is accredited in the following test: chemical analysis per ASTM E 415, mechanical testing per ASTM A 370, Rockwell hardness per ASTM E 18, metallographic mount preparation per ASTM E 3, decarburization depth per ASTM E 1077, IFI 140, inclusion rating per ASTM E 45, decarburization performed as per IFI 140. The reported Chemical and Physical Properties are Mill Source results. Transcribed from mill certificates. HRB(W) are hardness results performed with a 1/16" carbide ball. Unless otherwise specified, HRB and HRC results are conversions from ASTM A370 tables 1 and 2. *Test result not covered by our current A2LA accreditation. Tests which have been undertaken by a subcontractor laboratory that is not accredited are not endorsed by A2LA or covered by Wire Tech, Inc. A2LA accreditation.

TEST RESULTS RELATE ONLY TO THE ITEMS TESTED.

DFAR Material per Clauses 252.225-7014 ALT. 1, 252.225-7009, & 225.003(9)

Material is free of mercury, radium, or alpha contamination.



A68728

[Signature]



CHARTER STEEL

A Division of
Charter Manufacturing Company, Inc.

EMAIL

1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
FAX (262) 268-2570

CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Wiretech Incorporated
6440 East Canning Street
Attn: Andre Stephan
Los Angeles, CA-90040

Cust P.O.	6676-10
Customer Part #	8740C1A060-C-R
Charter Sales Order	70022465
Heat #	10140400
Ship Lot #	4092535
Grade	8740 R SK FG AQ 1/4
Process	HRSA
Finish Size	1/4

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = AMS6322N/AMS2301K/COP3010M/BS2S147:1976 CHEM ONLY Revision = Dated =

Additional Comments:



NOV 16 2011

Charter Steel
Saukville, WI, USA

Rem: Load1,Fax0,Mail0



Page 2 of 2

This MTR supersedes all previously
dated MTRs for this order

Janice Barnard
Manager of Quality Assurance
09/15/2011

Certificate of Analysis

Radcliff Wire Inc. 97 Ronzo Rd., P.O. Box 603, Bristol, CT 06010

Date Shipped: 11/30/2011

PO #: VP125694

Qty. Shipped: 96 LBS-7-BLACK
MIG SPOOLS

Radcliff No.: 122793

Heat No.: Z3003MK11

Customer: CHERRY AEROSPACE
SANTA ANA OPERATIONS
1224 EAST WARNER AVE
SANTA ANA, CA 92705-5414

Country of Origin: USA

Original Mill Source: USA

Size: .006 X .011 X .056 ***

Material: A286 Stainless Steel

Description: SPECIAL SHAPE

Specification: AMS 5731 REV L, AMS 5737 REV P
CHEM ONLY

Notes:

PART# M189.44 REV W
NET WGT 96 LBS
DFAR COMPLIANT
CONSIGNMENT ORDER

Chemical Properties

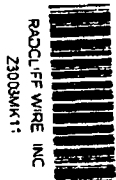
Al: 0.2%	B: 0.007%	Bi: 0.00001%	C: 0.04%	Co: 0.07%
Cr: 14.43%	Cu: 0.16%	Fe: 56.51%	Mn: 0.1%	Mo: 1.27%
Ni: 24.66%	P: 0.009%	Pb: <0.0001%	S: 0.002%	Si: 0.17%
Ti: 2.07%	V: 0.3%			

Tensile: 93 KSI

Rockwell:

Certs/Material

DEC 19 2011



A68995

Lisa Piatek

Certification Clerk

The material as shipped is free from mercury contamination

HUNTINGTON ALLOYS CORPORATION
A Special Metals Company

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

OTHER DIRECT-NOT ASSIGNABLE TO DI D

HUNTINGTON, WEST VIRGINIA 25705-1771

A-1 WIRE TECH
 840 AIRPORT DR
 ROCKFORD, IL 61109

A-1 WIRE TECH
 C/O SMC ACCOUNTS PAYABLE
 1401 BURRIS ROAD
 NEWTON, NC 28658

CERTIFIED MATERIAL TEST REPORT

No. 17320

HA ORDER NO./ITEM

DATE

PAGE OF

300023059 1

06/23/11

1 3

QUANTITY

INSPECTED BY

9438 LBS

HA/SMC

CHARGE ORDER NO.

MARK ORDER NO.

DESCRIPTION OF MATERIAL SHIPPED

INCOLOY ALLOY A-286
 .3120 IN COIL

29968-1

HR ROD - COIL PKL ANN

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 8/08

*****THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.*****

SPECIFICATIONS: A-1 A286 RESTRICTED FOR CUST 187, 1250, 211 REV 2-25-10\
 SAE AMS 5731L CHEM ONLY\SAE AMS 5732J CHEM ONLY\
 SAE AMS 5734K CHEM ONLY\SAE AMS 5737N CHEM ONLY\
 SAE AMS 5726D CHEM ONLY\GE C50TF35-S4 AM 7 CLASS A CHEM ONLY\
 SPS-M-118 REV L CHEM ONLY\GE S-400 (10-10-2008)\
 GE S-1000 (3-2-2010)\
 HEAT TREAT & STRESS RUPTURE CAPABILITY TESTING\
 QUALITY SYSTEM CERTIFICATION: ISO 9001:2008 (ABS-QE CERT. 30125);
 EN 10 204/DIN 50049 (TYPE 3.1)

UNS:566286

CHEMICAL ANALYSIS (WT. %)

HEAT#	C	MN	FE	S	SI	CU	NI	CR	AL
	TI	CO	MO	P	B	PB/PPM	BI/PPM	V	
Z3003MK	0.04	0.10	56.51	0.002	0.17	0.16	24.66	14.43	0.20
	2.07	0.07	1.27	0.009	0.007	<0.1	<0.1	0.30	

COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA
 TO CONVERT PPM TO WT.%, MOVE DECIMAL POINT FOUR PLACES TO THE LEFT.

MELT METHOD: VIM + ELECTROSLAG REMELTED

MECHANICAL PROPERTIES

HEAT/LOT	QUANTITY	HARD NESS	GRAIN SIZE	YIELD .2XPSI X 100 X 100	TENSILE PSI	YELG	R/A X	DEG F
Z3003MK								
ROOM TEMP-	-CAPABILITY **			1043	1577	26.1	46.4	
ROOM TEMP-	-CAPABILITY **			0988	1547	27.4	51.0	
HARDNESS -HRC	-CAPABILITY	28.5						
HARDNESS -HRC	-CAPABILITY	27.7						

A68995



RADCLIFF WIRE, INC
 Z3003MK11

DEC 19 2011

HEAT TREAT #1
 HEAT TREAT #2
 HEAT TREAT #1
 HEAT TREAT #2

HUNTINGTON ALLOYS CORPORATION
A Special Metals Company

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HUNTINGTON, WEST VIRGINIA 25705-1771

CERTIFIED MATERIAL TEST REPORT

No. 17320

A-1 WIRE TECH
840 AIRPORT DR
ROCKFORD, IL 61109

HA ORDER NO./ITEM

300023059 1

DATE

06/23/11

PAGE OF

3 3

QUANTITY

9438 LBS

INSPECTED BY

HA/SMC

CHARGE ORDER NO.

29968-1

MARK ORDER NO.

29968-1

A-1 WIRE TECH
C/O SMC ACCOUNTS PAYABLE
1401 BURRIS ROAD
NEWTON, NC 28658

DESCRIPTION
OF MATERIAL
SHIPPED

INCOLOY ALLOY A-286

.3120 IN COIL COIL

HR ROD - COIL PKL ANN

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLINGS INSPECTIONS
AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE
ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT
REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL
FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE.
THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL
COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS.
WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN
ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 808

ANNEX 1, CHAPTER 4.3 PER ABS GROUP LTD CERTIFICATE 41734 (EXPIRES JULY 31, 2011)."

HUNTINGTON ALLOYS CORPORATION IS AN ACCREDITED INDEPENDENT NADCAP MATERIALS TESTING LABORATORY VIA CERTI-
FICATE NUMBER 127805 (EXPIRES APRIL 30, 2013) FOR ALL TESTING SPECIFIED IN THE SCOPE OF ACCREDITATION.

MATERIAL PRODUCED UNDER QA SYSTEM DOCUMENTED IN HUNTINGTON ALLOYS CORP QA MANUAL REV. 49, DATED 2/17/2011

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES :
W.F. BOLEN, M.A. MORRISON, D.K. MILLER

CERTIFIED TESTING LABORATORY DATA SOURCE I/II
AECG VENDOR NO. 47150
M.R.B. CASE RECORD NO.: NONE
AUTHORIZED VENDOR SIGNATURE
DATE: 06/23/11



A68995



RADCLIFF WIRE, INC. -
Z3003MK11

HUNTINGTON ALLOYS CORPORATION
A Special Metals Company

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OTHER DIRECT-NOT ASSIGNABLE TO DI D

HUNTINGTON, WEST VIRGINIA 25705-1771

A-1 WIRE TECH 840 AIRPORT DR ROCKFORD, IL 61109	CERTIFIED MATERIAL TEST REPORT		No.	17320
	HA ORDER NO./ITEM	DATE	PAGE	OF
	300023059 1	06/23/11	2	3
	QUANTITY	INSPECTED BY		
A-1 WIRE TECH C/O SMC ACCOUNTS PAYABLE 1401 BURRIS ROAD NEWTON, NC 28658	9438 LBS	HA/SMC		
	CHARGE ORDER NO.	MARK ORDER NO.		
	29968-1	29968-1		
	DESCRIPTION OF MATERIAL SHIPPED	INCOLOY ALLOY A-286 .3120 IN COIL COIL HR ROD - COIL PKL ANN		

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLINGS INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 8/08

STRESS RUPTURE-CAPABILITY 1200 DEG F/ 75,000 PSI STRESS/ 057.8 HRS / 7.4XEL IN 4D /11.1XRA/
STRESS WAS INCREASED PER SPECIFICATION OPTION TO INDUCE EARLY FRACTURE

STRESS RUPTURE SPECIMEN DIAMETER - .250"

HEAT TREAT #2

STRESS RUPTURE-CAPABILITY 1200 DEG F/ 75,000 PSI STRESS/ 038.7 HRS / 18.3XEL IN 4D /31.4XRA/

STRESS RUPTURE SPECIMEN DIAMETER - .250"

HEAT TREAT #1

23003MK 11' 11 PCS
 ROOM TEMP-HRB -AS SHIPPED *** 68.4 0309 0855 50.5 78.5
 GRAIN SIZE-AS SHIPPED AGS ASTM NO. 7.
 NORMAL - TRAN
 ** TENSILE SPECIMEN GAUGE LENGTH - 4 X DIAMETER
 *** TENSILE SPECIMEN GAUGE LENGTH - 01.500

YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

NO WELDING OR WELD REPAIR WAS PERFORMED.

CAPABILITY HEAT TREAT #1: SOL TREAT AT 1650 DEG. F. FOR 30 MINUTES. WATER QUENCHED. AGED 1325 DEG. F. FOR 16 HOURS. AIR COOLED.

CAPABILITY HEAT TREAT #2: SOL TREAT AT 1800 DEG. F. FOR 30 MINUTES. WATER QUENCHED. AGED 1325 DEG. F. FOR 16 HOURS. AIR COOLED.

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.
MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, & LOW MELTING ELEMENTS.

"CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES. ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

"QUALITY SYSTEM MEETS REQUIREMENTS OF DIRECTIVE 97/23/EC (PRESSURE EQUIPMENT DIRECTIVE).

DEC 19 2011

A68995



RADCLIFF WIRE, INC -F-
 Z3003MK11

A-1 Wire Tech, Inc.

4550 Kishwaukee Street
Rockford, Illinois 61109

QUALITY ASSURANCE DEPARTMENT HUNTINGTON ALLOYS / COUNTRY OF ORIGIN: USA / MFG: USA

Certified Material Test Report

Load ID. 00082926

Page 1

HEAT/LOT

Z3003MK11

SOLD TO

Radcliff Wire
97 Ronzo Road
Bristol, CT 06011-0603
USA

SALES ORDER
103494 / 1

Date Printed 07/20/2011

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	PIECES	SHIPMENT DATE						
43421	JOB# 1282011	207.00	2	07/20/2011						
PRODUCT: Alloy: A286 Diameter: .034" Temper: 1/8 Hard Finish: 7662861-034-50-ST										
CERTIFICATION REQUIREMENTS										
*As Shipped Properties										
TEST	UNITS	RESULTS								
*Tensile	ksi	110								
Chemical Analysis %										
C	Mn	Si	P	S	Cr	Ni	Co	Ti	V	Fe
.04	.10	.17	.009	.002	14.43	24.66	.07	2.07	.30	56.51
Cu	Mo	B	Al	Pb	Bi					
.16	1.27	.007	.20	<.1 PPM	.00001					
Specifications										
*Melt Source DFARS COMPLIANT / MELT SOURCE: HUNTINGTON ALLOYS / COUNTRY OF ORIGIN: USA / MFG: USA										
Specification:										
End of Certification										

Visual and dimensional examination
Satisfactory
Material, when shipped is free from
contamination by mercury, radium,
alpha source, and low melting
point elements.

This is to certify that all required samplings, inspections, operations and tests
performed by A-1 Wire Tech, Inc. and its subcontractors are in accordance with the
specification requirements. The test report represents the actual attributes of the
material furnished and the values shown are correct and accurate. The material
described by this certificate is in full compliance with all order and inspection
requirements. We hereby certify that the above data are in accordance with the
specification requirements.

Suzanne Mullins

Suzanne Mullins
Quality Assurance Manager

DEC 19 2011



A68995
RADCLIFF WIRE, INC.
Z3003MK11

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled, and processed in the United States meeting DFAR's compliance.
2. Mercury was not used during the manufacture of this product, nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSSM	Charter Steel Melting Division	1653 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSSR/CSSP	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	CSFP	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSCM/CSCR	Charter Steel Cleveland	4300 E. 49th St., Cuyahoga Heights, OH 44125-1004
.	.	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Specification	CSSM	CSSR/CSSP	CSFP	CSCM/CSCR
Chemistry Analysis	ASTM E415; ASTM E1019	X			X
Macroetch	ASTM E381	X			X
Hardenability (Jominy)	ASTM A255; SAE J406; JIS G0561	X			X
Grain Size	ASTM E112	X	X	X	X
Tensile Test	ASTM E8; ASTM A370		X	X	X
Rockwell Hardness	ASTM E18; ASTM A370	X	X	X	X
Microstructure (spheroidization)	ASTM A892		X	X	
Inclusion Content (Methods A, E)	ASTM E45		X		X
Decarburization	ASTM E1077		X	X	X

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/13.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report subject to the following restrictions:
 - It may be distributed only to their customers
 - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgement (designated by our Sales Order number) to the customer's purchase order. Both order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.

NOV 16 2011



A68728



CHARTER STEEL

A Division of
Charter Manufacturing Company, Inc.

EMAIL

1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
FAX (262) 268-2570

CHARTER STEEL TEST REPORT Reverse Has Text And Codes

Wiretech Incorporated
6440 East Canning Street
Attn: Andre Stephan
Los Angeles, CA-90040

Cust P.O.	6676-10
Customer Part #	8740C1A060-C-R
Charter Sales Order	70022465
Heat #	10140400
Ship Lot #	4092535
Grade	8740 R SK FG AQ 1/4
Process	HRSA
Finish Size	1/4

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies these requirements.

Test Results of Heat Lot# 10140400											
Lab Code: 7388	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
CHEM %WT	.39	.85	.009	.007	.25	.43	.54	.20	.09	.006	.001
	AL	N	B	TI	NB						
	.026	.0050	.0001	.002	.001						
JOMINY(HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM12
	56	56	56	54	53	50	48	46	45	43	40
	JOM14	JOM16	JOM18	JOM20	JOM24	JOM28	JOM32				
	38	35	34	33	31	29	28				

JOMINY SAMPLE TYPE ENGLISH = C
E45 INCLUSION LAB = 0358-02

Cleanliness		ASTM-E45 Method A							
		A	B	C	D				
Thin	Heavy	.8	1.4	.0	.5				
Thin	Heavy	.0	.0	.0	.0				
LOC1 = 1-3	AT = .5	AH = .0	BT = 1.0	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
LOC2 = 2-3	AT = 1.0	AH = .0	BT = 2.0	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
LOC3 = 3-3	AT = 1.0	AH = .0	BT = .5	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
LOC4 = 3-6	AT = .5	AH = .0	BT = 2.0	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
LOC5 = 4-3	AT = 1.0	AH = .0	BT = 1.5	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
LOC6 = 4-11	AT = 1.0	AH = .0	BT = 1.5	BH = .0	CT = .0	CH = .0	DT = .5	DH = .0	
MACRO ETCH SURFACE = 1 MACRO ETCH RANDOM = 1 MACRO ETCH CENTER = 1									
AMS 2301 FREQUENCY AVERAGE = .00 AMS 2301 FREQUENCY INDIVIDUAL = .00									
AMS 2301 SEVERITY AVERAGE = .00 AMS 2301 SEVERITY INDIVIDUAL = .00									
CHEM. DEVIATION EXT. -GREEN =									

NO



A68728



NOV 16 2011

Test Results of Rolling Lot# 1043443						
REDUCTION RATIO = 616:1						
Test Results of Processing Lot# 4090395, 4092535						
	# of Tests	Min Value	Max Value	Mean Value		
TENSILE	2.0	81.2	84.7	82.9	TENSILE LAB = 0358-02	
REDUCTION OF AREA	2	67	72	70	RA LAB = 0358-02	
ROCKWELL B	2	77	79	78	RB LAB = 0358-02	

NUM DECARB = 3 FREE FERRITE DECARB = .000 FREE FERR & PARTIAL DECARB = .002
CP SPHERO % LAB = 0358-02 NUM SPHERO = 3 SPHERODIZATION = 85.8

Specifications: Manufactured per Charter Steel Quality Manual Rev 9,08-01-08

Charter Steel
Saukville, WI, USA



This MTR supersedes all previously dated MTRs for this order

Janice Barnard
Janice Barnard
Manager of Quality Assurance
09/15/2011

Rem: Load1, Fax0, Mail0

KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

Revised Certification
CERTIFIED TEST REPORT
<http://Certs.KaiserAluminum.com>

Kaiser Aluminum & Chemical
800 Kaiser Drive
Heath, OH 43056-1088
740-522-1151

CUSTOMER PO NUMBER: FLO-1100		CUSTOMER PART NUMBER: 6Z37KH		PRODUCT DESCRIPTION: ALY-JUMBO	
KAISER ORDER NUMBER: 624533840	LINE ITEM: 1	SHIP DATE: 08/02/2011		ALLOY: K540	TEMPER: F
WEIGHT SHIPPED: 19582 lbs.	QUANTITY: 90 pcs.	B/L NUMBER: 9922	DIAM/DAF/THKNS: 0.375 in.	WIDTH: 0.000 in.	LENGTH: 0.0 in.
SHIP TO: FLORENCE 1547 HELTON DRIVE FLORENCE, AL 35630			SOLD TO: FLORENCE 1547 HELTON DRIVE FLORENCE, AL 35630		

Test Code: 4000

Actual Physical Properties

Lot No.

847412, 0.0

Chemical Composition, WT. % (Aluminum Remainder)

Lot Cast/Drop ChemID		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
847412									
22-2F2	Act.	0.04	0.09	0.01	0.08	4.7	0.08	0.02	0.01
163126									
Chemical	Min				0.05	4.5	0.05		
Limits	Max	0.30	0.40	0.10	0.20	4.9	0.20	0.10	0.05
	Others	Each	0.05	Max		Total	0.15	Max	



A68094

SEP 21 2011



CERTIFICATION

Kaiser Aluminum & Chemical Corp Inc. ("Kaiser") hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales order acknowledgement form. Any warranty is limited to that shown on Kaiser's standard general terms and conditions.

Warren Marcucci, Technical Manager

Warren Marcucci

Plant Serial: 18462

Kaiser Order Number: 624533840

Page 1 of 2

Line Item: 1



CHERRY[®] AEROSPACE
SPS Testcenter Division, a PCC Company

1224 East Warner Avenue
Santa Ana, CA 92707-0157



Accredited
Nadcap[™]

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report

CherryMax[®] Rivet

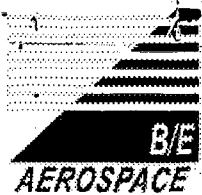
An ISO9001 and AS9100 registered company. OASIS #6111041606

Lot I.D. No.: 87594700

Rev: -

Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
NAS9301BNS-4-05	4	NAS1686	3
M7885/2-4-05	D2	MIL-R-7885	D2
NAS9301B-4-05	4	NAS1686	3
S2906-4-5	B	MIL-R-7885	D2
S2906-4-5	B	NAS1686	3
S2906-4-5	B	PS-CMR-3000	R



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172

Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
2	100	EA	AN526C832R8		53453	CRESCENT MFG.	63020		


Jason Lewis
Vice President of Quality

07/09/14

Nº 53453

CERTIFICATE OF COMPLIANCE TEST REPORT

MADE IN THE U.S.A.

CUSTOMER NAME M&M AEROSPACE HDW

PART NO. AN526C832R8* REV 6

PURCHASE ORDER NO. OEL750

QUANTITY FOUR HUNDRED FIFTY THREE THOUSAND

MATERIAL/SPECIFICATION .144 302HQ CINCINNATI KNAX00172

DATE 4/9/2008

PHYSICAL PROPERTIES

TENSILE STRENGTH	HARDNESS	SCALE
------------------	----------	-------

1) 1504.3 LB T	1)	
2) 1536.2 LB T	2)	
3) 1504.3 LB T	3)	
4) 1493.5 LB T	4)	
5) 1515.7 LB T	5)	
6) 1518.7 LB T	6)	
7) 1523.4 LB T	7)	
8) 1505.3 LB T	8)	

CONFORMS TO THE PROCUREMENT SPECIFICATIONS OF:

FF-S-92B

DFARS 252.225-7014 ALT 1

OTHER MECHANICAL TEST DATA

☒ MEET MAGNETIC PERMEABILITY
REQUIREMENTS OF FF-S-92B AND MIL-I-17214B

PARTS ARE FREE FROM MERCURY CONTAMINATION.

VISUAL AND DIMENSIONAL INSPECTION SATISFACTORY

OTHER TESTING:

FINISH

MEETS PASSIVATION REQUIREMENTS OF
ASTM A967-05 PER QQ-P-35C

ADDITIONALLY, AN ANSI/ASQC Z 1.4 SAMPLE OF THE
FINISHED FASTENERS WERE TESTED IN ACCORDANCE WITH
APPLICABLE SPECIFICATIONS. SAMPLE PARTS AND THE TEST DATA
ARE IN OUR RECORDS RETENTION AREA AS OBJECTIVE EVIDENCE
AND WILL BE HELD AS REQUIRED.

Signature

Harman J. Purnell
FOREMAN

CRESCENT MANUFACTURING OPERATING, CO.

ISO 9001 : 2000 REGISTERED # 48791-3



Cage Code #63020

700 George Washington Turnpike, Burlington, CT 06013, U.S.A.

Telephone: (860) 673-2591 Fax: (860) 673-5973



KOSWIRE, INC.

4600 CANTRELL ROAD.
FLOWERY BRANCH GA 30542
U.S.A

TEL : (770) 965-1145 FAX : (770) 965-1147

770 965 1147 P.05

Inspection Certificate

DATE OF ISSUE: 2008-02-04

DESCRIPTION	STAINLESS STEEL WIRE FOR COLD HEADING (WSB)		
MILL CERT. NO.	LA1-200802A-0023	GRADE	AISI 302HQ
P.O. NO.	8851	DIAMETER	0.1440 INCH
INVOICE NO.	S080204/06 (S07C045-01)	FINISH	DU X-CO (CARRIER)
CONTRACTOR	CINCINNATI METAL. INC.	QUANTITY	4,742.9 LBS. (4 CARRIERS)
CUSTOMER	CINCINNATI METAL. INC.	APP. SPEC	ASTM A-493/QQS-763F

CHEMICAL COMPOSITION

A representative sample (coils, reels, spools) has been tested and certified with the following values: (wt %)

COMPONENT	C	Si	Mn	P	S	Ni	Cr	Cu			
CH. NO.											
KNAX00172	0.0234	0.4974	0.8198	0.0214	0.0003	9.4430	17.5123	3.5164			

KNAX00172= NAS HEAT #2EX1

INSPECTION RESULTS

This sample is considered representative of the whole lot of material.

ITEMS	SIZE	T/S	R/A			Weight	LOT NO.	REMARK
	(INCH)	(MPST)	(%)	()	()	(lbs)		
COTL. NO.	+0.0010 -0.0010	85.0 70.0						
1	0.1443	82.3	80.6				1A1002-80115-0001	KNAX00172
5	0.1443	81.0	80.9			1,158.7	1A1002-80116-0005	
6	0.1441	80.5	79.8			1,063.9	1A1002-80117-0006	
8	0.1442	80.1	79.0			1,238.1 1,282.2	1A1002-80118-0008	

CRESCENT MFG
T.R. NO. 53453

REMARKS

C/O USA
DFAR MATERIAL

We hereby certify that the material described herein has been made in accordance with the specification of the order.

Ver. 99.4 P. 3

FEB 12 2008 2:50PM



**Cincinnati
METALS
Company, Inc.**

8261 Cornell Road
Suite 620
Cincinnati, OH 45249
Ph: 800-999-2600
Fax: 513-755-9603

TEST CERTIFICATE

Bill To:
CRESCENT MANUFACTURING
P.O. BOX 1350
BURLINGTON, CT 6013

Ship To:
CRESCENT MANUFACTURING
700 GEORGE WASHINGTON TPK.
BURLINGTON, CT 6013

Customer PO#: K50

Customer Part #:

Invoice Date: 2/26/2008		CMC SO: 5677	Ordered: 1,282
Invoice: 4645		Line: 2	Shipped: See Tags
		Item: 3021440HQXC.CTD	
Item Desc:	1440 302HQ X-COAT/250 CL	SPECS	ASTM A-493/QQS-763F
Certification Nbr:	LA1-200802A-0023		ASTM-493

MATERIAL TEST RESULTS

Heat: KNAX00172

Chemical Composition %

	<u>C</u>	<u>MN</u>	<u>P</u>	<u>S</u>	<u>SI</u>	<u>CR</u>	<u>NI</u>	<u>CU</u>	<u>MO</u>	<u>N</u>
Actual:	0.023	0.892	0.021	0.000	0.497	17.512	9.463	3.516	0.000	0.000

Mechanical Properties

<u>Tensile Strength (KSI):</u>	<u>Country of Origin (Melt)</u>	<u>Alt Heat Number</u>	<u>DFAR Compliant (Y/N)</u>
82.30	USA	2EX1	YES

Tag: 6947	1,282 lb
Total Weight:	1,282 lb

CRESCENT MFG
T.R. NO. 53453

Manager of Q.A. Department

Material Test Results and Specifications are provided to
Cincinnati Metals Company by the issuing mill.

No. 0632 P. 2

FEB 26 2008 10:25AM



B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	100	EA	CR3523-4-03		87662837	CHERRY AEROSPACE SAN	11815		






Jason Lewis
Vice President of Quality

07/09/14



100 CORPORATE DR., HOLTSMVILLE, NY 11742
ISO9001 / AS9100 REGISTERED QUALITY SYSTEM
QUALITY CONTROL RECEIVING INSPECTION REPORT

**PROGRAM KIT COMPONENT OR CHEMICALS OR STANDARD HARDWARE
FOR STAND ALONE SALES ORDERS. PART IDENTIFICATION LABEL FOR
SCANNING.**

	
CERT CNY12061300021	
	
ITEM CR3523-4-3	
	
LOT 87662837	
	
PON PUR03AMD	
BRANCH NY	
Vendor..	CHERRY AEROSPACE
Qty.....	12,608
Manf....	CHERRY TEXTRON
Rev.	AC

Part #.....	CR3523-4-3
Lot ID.....	87662837
Manufacturer..	CHERRY TEXTRON
Qty this Lot..	000012608
Doc Lev.....	DFR
Rev.....	AC
Sample Size...	000000001
Inspector.....	TFR
Cert Date.....	06/13



**CUSTOMER
CODE:**

PROCESSED BY: *TFR*



CHERRY®
AEROSPACE
 SPS Fastener Division, a PCC Company

Cherry Aerospace
 1224 East Warner Avenue
 Post Office Box 2157
 Santa Ana, CA 92707-0157
 USA



PACKING LIST

Order No: S0362108
 Order Date: 08/31/11
 Print Date: 05/30/12

Page: 1



Sold-To: 10018035

Ship-To: 10018035

SOLD TO
 UFC AEROSPACE CORP-BAY SHORE
 100 CORPORATE DRIVE
 P.O. BOX 2061
 HOLTSVILLE, NY 11742
 USA

SHIP TO
 UFC AEROSPACE CORP-BAY SHORE
 100 CORPORATE DRIVE
 P.O. BOX 2061
 HOLTSVILLE, NY 11742
 USA

Salesperson (s):113

Purchase Order: PUR03AMD

Credit Terms: 1&10, 30
 1&10, Net 30

Ship Via: YRC
 FOB: Origin - Collect

Remarks:

UPS ACCOUNT # 163-502 DO NOT INSURE UNLESS INSTRUCTED TO
 IF SHIPMENT IS 150 LBS OR MORE PLEASE CALL 631-582-7940

AIRBUS APPROVAL # 30114

IF APPLICABLE, PART MEETS DFARS CLAUSE 252.225-7014 ALT I
 PREFERENCE FOR DOMESTIC SPECIALTY METALS

Ln	Item Number	Site T Location	Lot/Serial	Qty Open Qty to Ship	UM	Promised Shipped
2	CR3523-4-03	1600			EA	06/01/12
		A0705	87662837	12608.0		()
		H0303	87662836	15880.0		()
		H0605	87662835	10092.0		()
		H0705	87662834	2395.0		()

JUN 07 2012

TEST REPORTS ENCLOSED
DO NOT DESTROY



These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

Packing List



CHERRY®
AEROSPACE
SPS Fastener Division, a PCC Company

Cherry Aerospace
1224 East Warner Avenue
Post Office Box 2157
Santa Ana, CA 92707-0157
USA



PACKING LIST

Order No: S0362108 Page: 1
Order Date: 08/31/11
Print Date: 05/30/12



Sold-To: 10018035

Ship-To: 10018035

SOLD TO
UFC AEROSPACE CORP-BAY SHORE
100 CORPORATE DRIVE
P.O. BOX 2061
HOLTSVILLE, NY 11742
USA

SHIP TO
UFC AEROSPACE CORP-BAY SHORE
100 CORPORATE DRIVE
P.O. BOX 2061
HOLTSVILLE, NY 11742
USA

Salesperson (s):113

Purchase Order: PUR03AMD

Credit Terms: 1&10,30
1&10, Net 30

Ship Via: YRC
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Remarks:

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		A0705 87662837	12608.0		()
		H0303 87662836	15880.0		()
		H0605 87662835	10092.0		()
		H0705 87662834	2395.0		()

TEST REPORTS ENCLOSED
DO NOT DESTROY



These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited

CERTIFICATION

ATTENTION: PURCHASING DEPARTMENT

Quality Assurance Representative

The material and/or parts we are furnishing in this shipment (as shown above) on the subject Purchase Order conform to the order and applicable specifications. Evidence that the material and/or parts meet the specifications and results of all tests for each lot affected will be in our files and will be available for your inspection at any reasonable time.

Signed
SIM NGUYEN



CHERRY AEROSPACE
SPS Former Division, a PCC Company



Accredited
Nadcap

Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

1224 East Warner Avenue
Santa Ana, CA 92707-0157

Final Inspection & Test Report CherryMax® Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Part Numbers	Rev	Proc. Spec.	Rev	Lot I.D. No.:	87662837
CR3523-4-03	AC	PS-CMR-3000	R	Lot Size:	12,700
** See 2nd Page for the Customer Parts				MFG. Date:	May 29, 2012

ASSEMBLY DATA

TYPE	ID #	CERT #	MATERIAL	FINISH	LUBE
Rivet	87457020	A66665	QQ-N-281/MONEL	None	None
Stem	87644448	A70111	AMS5657 / 15-7PH	None	AS5272, Type 1, Moly Disulfide
Collar	00000000	A70408	A-286 / AMS5731	Passivate per AMS2700	None

W.O. #: 5478548

Final Lube: WAX

QUALITY CONFORMANCE/ACCEPTANCE RESULTS

MIN REQ'D SAMPLE SIZE SPECS	INSTALLED SHEAR		TENSION		SPINDLE RETENTION		DISASSEMBLY
	846		400		150		10
	5	N/A	5	N/A	5	N/A	5
	C-N	B	C-N	B	C-N	B	C-N
RESULTS	993		728		228		32
	998		705		257		46
	1012		709		242		40
	1025		711		237		28
	1017		714		252		14

C=CR N=NAS
M=MIL B=BAC
LOAD VALUES
IN POUND

PCS.	ITEM	STATUS	PCS.	ITEM	STATUS
20	EXAMINATION	PASS	20	INSTALLATION (Min and Max Grips)	PASS

Comments:

Blind Fastener

Tr. Rev:	-	Q Code	V10
Rev. Date:	5/29/2012	Inspector	J Segura

The parts contained in this shipment have been manufactured and inspected in accordance with TSO-C148. The conditions and tests required for TSO approval of this article are minimum performance standards. Aircraft fasteners approved under this TSO are not necessarily interchangeable with other aircraft fasteners approved under this TSO. Fasteners of similar dimensional properties may have widely varying performance and metallurgical properties. Substitution of parts may only be done if acceptable to or approved by the Administrator.

This test report shall not be reproduced except in full, without the written approval of the laboratory.
The recording of false, fictitious, or fraudulent statement or entries on the certificate may be punished as a felony under Federal law.

Form No. 1141-10-75 Rev. F 07/15/10 CR10-0832





CHERRY[®] AEROSPACE
GPS Testnet Division, a PCC Company

1224 East Warner Avenue
Santa Ana, CA 92707-0157



Chemical Processing
Heat Treating
ISO/IEC 17025
Material Testing Lab

Final Inspection & Test Report CherryMax[®] Rivet

An ISO9001 and AS9100 registered company. OASIS #6111041606

Lot I.D. No.: 87662837

Rev: -

Customer Parts List

<u>Customer Part Number</u>	<u>Rev</u>	<u>Proc. Spec.</u>	<u>Rev</u>
NAS9307M-4-03	4	NAS1687	2

*** Ref: M7885/4-4-03





A-1 Wire Tech, Inc.

NORTH AMERICA'S PREMIER MANUFACTURER OF HIGH NICKEL & STAINLESS STEEL ALLOYS

4550 Kishwaukee Street
Rockford, Illinois 61109

Certified Material Test Report

HEAT/LOT

Load ID. 00081903

M6056BR12

SOLD TO


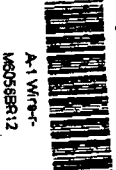
Page 2

Cherry Aerospace
1224 East Warner Avenue
Santa Ana, CA 92705
USA

SALES ORDER

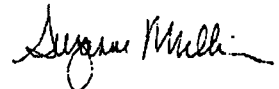
099792 / 3

Date Printed 03/02/2011

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	PIECES	SHIPMENT DATE
PO122746	M015.1230	1,519.00	9	03/02/2011
PRODUCT: Alloy: M400 Diameter: .123" Length: X Coil M015 Temper: . Finish: Shaved, Soap Drawn 7044101-123-00-92				
Specifications				
*Melt Source DFARS COMPLIANT / MELT SOURCE: HUNTINGTON ALLOYS / COUNTRY OF ORIGIN: USA / MFG: USA				
Specification:				
CHERRY SPEC M-15 REV AA AMS 4730, QQ-N-281 (Class A Form 7), CHEMISTRY and Form ONLY. YIELD STRENGTH SHALL BE 50ksi MIN; 70ksi MAX. GRAIN SIZE ASTM 4 OR FINER PER ASTM E112				
WIRE TO BE SUPPLIED WITH TIGHTLY ADHERING AND EVEN SOAP COATING THAT DOES NOT FLAKE WHEN BENT 180 DEGREES AROUND A DIAMETER EQUAL TO THE NOMINAL DIAMETER OF WIRE CAST: WIRE FORM A CIRCLE NOT LESS THAN 22" AND NOT MORE THAN 40 IN DIAMETER				
End of Certification				
 MAR 21 2011  A66665 A-1 Wire Tech M6056BR12				

Visual and dimensional examination
Satisfactory
Material, when shipped is free from
contamination by mercury, radium,
alpha source, and low melting
point elements.

This is to certify that all required samplings, inspections, operations and tests performed by A-1 Wire Tech, Inc. and its subcontractors are in accordance with the specification requirements. The test report represents the actual attributes of the material furnished and the values shown are correct and accurate. The material described by this certificate is in full compliance with all order and inspection requirements. We hereby certify that the above data are in accordance with the specification requirements.



Suzanne Mullins
Quality Assurance Manager



A-1 Wire Tech, Inc.

NORTH AMERICA'S PREMIER MANUFACTURER OF HIGH NICKEL & STAINLESS STEEL ALLOYS

4550 Kishwaukee Street
Rockford, Illinois 61109

Certified Material Test Report

HEAT/LOT

Load ID. 00081903

M6056BR12

SOLD TO

Page 1



Cherry Aerospace
1224 East Warner Avenue
Santa Ana, CA 92705
USA


SALES ORDER

099792 / 3

Date Printed 03/02/2011

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	PIECES	SHIPMENT DATE						
PO122746	M015.1230	1,519.00	9	03/02/2011						
PRODUCT: Alloy: M400 Diameter: .123" Length: X Coil M015 Temper.: Finish: Shaved, Soap Drawn 7044101-123-00-92										
CERTIFICATION REQUIREMENTS M015.123 REV AA, QQ-N281 D CLAS A FORM 7 CHEMISTRY ONLY TO: AMS4730G										
MAR 21 2011										
*As Shipped Properties										
TEST	UNITS	RESULTS								
*Tensile	ksi	83								
*Yield	ksi	63								
*Elongation	Percent	32								
*Reduction Of Area	Percent	81								
*Grain Size	Grain Si	.								
*Hardness	HRB	86								
TEST	RESULT									
*Wrap/Bend	YES									
Chemical Analysis %										
C	Mn	Fe	S	Si	Cu	Ni	Al	P	Pb	Sn
.02	.89	1.84	.002	.14	31.71	64.98	.32	.007 PPM	3.6 PPM	2.7
Zn										
PPM 7.9										



A66665
A-1 Wire
M0056BR12



Visual and dimensional examination
Satisfactory
Material, when shipped is free from
contamination by mercury, radium,
alpha source, and low melting
point elements.

This is to certify that all required samplings, inspections, operations and tests
performed by A-1 Wire Tech, Inc. and its subcontractors are in accordance with the
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requirements. We hereby certify that the above data are in accordance with the
specification requirements.

Suzanne Mullins

Suzanne Mullins
Quality Assurance Manager

HUNTINGTON ALLOYS CORPORATION
A Special Metals Company

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

OTHER DIRECT-NOT ASSIGNABLE TO DI D

HUNTINGTON, WEST VIRGINIA 25705-1771

A-1 WIRE TECH 840 AIRPORT DR ROCKFORD, IL 61109	CERTIFIED MATERIAL TEST REPORT		No.	09459
	HA ORDER NO./ITEM	DATE	PAGE	OF
	300021871 1	12/29/10	1	2
	QUANTITY	INSPECTED BY		
A-1 WIRE TECH C/O SMC ACCOUNTS PAYABLE 1401 BURRIS ROAD NEWTON, NC 28658	5416 LBS	HA/SMC		
	CHARGE ORDER NO.	MARK ORDER NO.		
	26821-2	26821-2		
	DESCRIPTION OF MATERIAL SHIPPED	MONEL ALLOY 400 HR ROD - COIL PKL ANN .5310 IN COIL COIL		

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 8/08

*****THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.*****

SPECIFICATIONS: US FED QQ-N-281D AM 2 CL A CHEM ONLY
 ASTM B 164-03 (2008) CHEM ONLY
 ASME SECTION III 2007 EDITION 09 ADDENDA NCA-3800
 SAE AMS 4730F CHEM ONLY\NACE MR0175-ISO 15156-3 1ST EDITION
 GE S-400 (10-10-2008)\GE S-1000 (3-2-2010)\
 ASME SB-164 2007 EDITION 09 ADDENDA CHEM ONLY
 A-1 M400LC MOD FOR CUST 295-01 REV 4-11-08.
QUALITY SYSTEM CERTIFICATION: ISO 9001:2008 (ABS-QE CERT. 30125);
 EN 10 204/DIN 50049 (TYPE 3.1)

UNS:N04400

HEAT#	CHEMICAL ANALYSIS (WT. %)								
	C	MN	FE	S	SI	CU	NI	AL	P
	PB/PPM	SN/PPM	ZN/PPM						
M6056BR	0.02	0.89	1.84	0.002	0.14	31.71	64.98	0.32	0.007
	3.6	2.7	7.9						

COUNTRY OF ORIGIN: MELTED AND MANUFACTURED IN THE USA
 THE % OF NICKEL INCLUDES A SMALL AMOUNT OF COBALT
 TO CONVERT PPM TO WT.%, MOVE DECIMAL POINT FOUR PLACES TO THE LEFT.
MELT METHOD: EF/AOD

MAR 21 2011

HEAT/LOT	QUANTITY	MECHANICAL PROPERTIES					
		HARDNESS	GRAIN SIZE	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	REDUCTION OF AREA
			2XPSI	PSI	PSI	%	%
			X 100 X 100				
M6056BR 12	7 PCS						
ROOM TEMP-HRB	-AS SHIPPED ***	60.5		0242	0686	53.4	84.4
GRAIN SIZE-AS SHIPPED AGS ASTM NO. 6.5							
NORMAL - TRAN							
*** TENSILE SPECIMEN GAUGE LENGTH - 02.500							



A66665



A-1 Wire-r.
M6056BR12



HUNTINGTON ALLOYS CORPORATION

A Special Metals Company

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

OTHER DIRECT-NOT ASSIGNABLE TO DI D

HUNTINGTON, WEST VIRGINIA 25705-1771

A-1 WIRE TECH 840 AIRPORT DR ROCKFORD, IL 61109	CERTIFIED MATERIAL TEST REPORT		No.	09459
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	QUANTITY	INSPECTED BY		
A-1 WIRE TECH C/O SMC ACCOUNTS PAYABLE 1401 BURRIS ROAD NEWTON, NC 28658	5416 LBS	HA/SMC		
	CHARGE ORDER NO.	MARK ORDER NO.		
	26821-2	26821-2		
	DESCRIPTION OF MATERIAL SHIPPED			
	MONEL ALLOY 400	HR ROD - COIL PER ANN		
	.5310 IN COIL	COIL		

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

REV. 8/08

YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

NO WELDING OR WELD REPAIR WAS PERFORMED.

ASME QUALITY SYSTEMS CERTIFICATE QSC-328 EXPIRES 3/25/2011, AND AS APPLICABLE, ASME QUALITY SYSTEMS ANY SUBCONTRACTED WORK ALSO COMPLIES WITH CUSTOMER & ASME SECTION III, NCA 3800 REQUIREMENTS. THIS CERTIFICATION AFFIRMS THAT THE CONTENTS OF THIS REPORT ARE CORRECT AND ACCURATE AND THAT ALL TEST RESULTS AND OPERATIONS PERFORMED BY SPECIAL METALS CORPORATION, INC. OR ITS SUBCONTRACTORS ARE IN COMPLIANCE WITH THE MATERIAL SPECIFICATIONS AND THE SPECIFIC APPLICABLE MATERIAL REQUIREMENTS OF ASME SECTION III.

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.

MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, & LOW MELTING ELEMENTS

"CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES. ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

"QUALITY SYSTEM MEETS REQUIREMENTS OF DIRECTIVE 97/23/EC (PRESSURE EQUIPMENT DIRECTIVE), ANNEX 1, CHAPTER 4.3 PER ABS GROUP LTD CERTIFICATE 41734 (EXPIRES JULY 31, 2011)."

HUNTINGTON ALLOYS CORPORATION IS AN ACCREDITED INDEPENDENT NADCAP MATERIALS TESTING LABORATORY VIA CERTIFICATE NUMBER 127805 (EXPIRES APRIL 30, 2011) FOR ALL TESTING SPECIFIED IN THE SCOPE OF ACCREDITATION.

MATERIAL PRODUCED UNDER QA SYSTEM DOCUMENTED IN HUNTINGTON ALLOYS CORP QA MANUAL REVISION 48, DATED 9/4/2009

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES :

W.E. BOLEN, P.D. CUSTER, M.A. MORRISON, P. WAUGH, D.K. MILLER

[Signature]

MAR 21 2011



A66665



A-1 Wire
M0056BR12

CERTIFICATE OF TESTS

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE

CERT SERIAL# 000819229



CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

- THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47.
- THE VALUES AND OTHER TECHNICAL DATA REPRESENT THE RESULTS OF ANALYSES AND TESTS MADE ON SAMPLES COLLECTED FROM THE TOTAL LOT. ORIGINAL DATA RECORDS CAN BE TRACED BY REFERENCE TO THE CARPENTER ORDER NUMBER.
- MATERIAL IS MANUFACTURED FREE FROM MERCURY, RADIUM, ALPHA AND GAMMA SOURCE CONTAMINATION.
- THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF CARPENTER TECHNOLOGY CORPORATION.

04/09/12

CUSTOMER / BESTELLER / CLIENT

SELLER / VERKÄUFER / VENDEUR PAGE 1 OF 2

CHERRY AEROSPACE LLC
PO BOX 2157
1224 E WARNER
SANTA ANA , CA 92707

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL.-NR./N° DE COMMANDE	CARPENTER NO./WERKS.-NR./N° DE REFERENCE INTERNE	DATE/DAUM/DATE	WEIGHT/GEWICHT/POIDS
PO126508	LOS944302 L39386	04/09/12	5046.000

HEAT NUMBER / SCHMELZE.-NR. / N° DE COULEE: 564762

PRODUCT DESCRIPTION: CARPENTER 15-7 PH ANNEALED COLD FINISH C HDG SC2 STRAND
----- CU/SOAP JIT

SPECIFICATION: CHERRY AEROSPACE M-84 REV AC (06/22/10) EXCPT LTR (07/25/11)
----- PENDING
AMS 5657 REV C (08/ /07) (CHEM ONLY)

SIZE 0.083000 IN. (2.11 MM) RD WIRE

PRIMARY HEAT CHEMISTRY (WT%): (TEST METHOD IS SHOWN IN PARENTHESIS)

C (COM)	MN (XRF)	SI (XRF)	P (XRF)	S (COM)	CR (XRF)
0.08	0.55	0.30	0.015	0.001	15.38
NI (XRF)	MO (XRF)	AL (XRF)	N (FUS)		
7.28	2.17	1.19	0.024		

CAPABLE OF SURFACE FINISH OF 63 RMS MAX

MICRO SURFACE DEFECT - ACCEPTABLE (LOT 01) (COILS 1 THRU 38 F & B) (LOT 02) (COIL 1 F & B)

HARDNESS AS SHIPPED, HV - 315 (CENTER)
PER ASTM E384 500 GRAM LOAD

(T) TRANSVERSE	(L) LONGITUDINAL	L
YIELD STRENGTH, (0.20 %) KSI (MPA)	110.0 (758)	
TENSILE STRENGTH, KSI (MPA)	157.0 (1082)	
ELONGATION IN .33", %	41.0	

CAST TEST: ACCEPTABLE

MATERIAL PRODUCED ON THIS ORDER WAS MELTED AND MANUFACTURED IN THE U.S.A.
MATERIAL HAS BEEN MELTED IN USA OR QUALIFYING COUNTRY TO DFARS REQUIRE-
MENTS. 252.225-7014 WITH ALTERNATE 1 FOR QUALIFYING COUNTRY 225.872.1,
SUPERSEDED BY DFARS REQUIREMENTS DFARS 252.225-7008 AND 252.225-7009.



APR 28 2012



CONTINUED ON NEXT PAGE

This certification is made to the customer printed on this form. Carpenter neither makes, nor assumes responsibility for, any representation or certification to other parties.
Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die angegebenen Daten oder Zertifizierungen.
Ce certificat est uniquement valable pour le client dont le nom est imprimé sur ce formulaire. Carpenter n'assume pas de responsabilité pour une certification vis-à-vis d'une tierce personne.

CERTIFICATE OF TESTS

CERT SERIAL# 000819229

ABNAHMEPRUEFZEUGNIS

CERTIFICAT DE CONTROLE



CARPENTER

Carpenter Technology Corporation
101 West Bern Street, Reading, Pa. 19601
Tel: (610) 208-2000 (800) 338-4592

04/09/12

CUSTOMER/BESTELLER/CLIENT

CHERRY AEROSPACE LLC
PO BOX 2157
1224 E WARNER
SANTA ANA , CA 92707

SELLER/VERKÄUFER/VENDEUR PAGE 2 OF 2

CARPENTER TECHNOLOGY CORP

101 W. BERN STREET
READING , PA 19601

CUSTOMER ORDER NO./BESTELL.-NR./N° DE COMMANDE	CARPENTER NO./WERKS.-NR./N° DE REFERENCE INTERNE	DATE/DATUM/DATE	WEIGHT/GEWICHT/POIDS
PO126508	LOS944302 L39386	04/09/12	5046.000

HEAT NUMBER / SCHMELZE-NR. / N° DE COULEE: 564762

THIS ORDER WAS MANUFACTURED IN ACCORDANCE WITH CARPENTER SPECIALTY ALLOYS OPERATIONS QUALITY PROGRAM MANUAL, REVISION 30 DATED 09/28/11.

CARPENTER'S QUALITY MANAGEMENT SYSTEM WAS REGISTERED AS OF NOVEMBER 24, 2010 TO THE REQUIREMENTS OF ISO 9001:2008 APPROVAL CERTIFICATE 10-1385R BY PERFORMANCE REVIEW INSTITUTE. CERTIFICATE OF TEST IS PREPARED IN ACCORDANCE WITH PARAGRAPH 3.1 OF EN 10204 (DIN 50049). WE HEREBY CERTIFY THAT THE ABOVE TEST DATA ARE IN ACCORDANCE WITH THE PURCHASE ORDER AND SPECIFICATION REQUIREMENTS, AS DOCUMENTED IN THIS CERTIFICATE OF TESTS.

TEST METHODS ARE PER THE ASTM STANDARDS ON FILE AND IN EFFECT AT TIME OF ORDER ACCEPTANCE, STANDARD PRACTICES, OR AS AGREED UPON BETWEEN CARPENTER & CUSTOMER.

TANIA M GRIFFITH
ADMINISTRATOR - QUALITY
CARPENTER TECHNOLOGY CORPORATION

M084.0830

APR 28 2012



Tania M Griffith

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Die vorliegende Zertifizierung ist nur für den in diesem Formular genannten Kunden gültig. Carpenter übernimmt gegenüber Dritten keinerlei Haftung für die ausgewiesenen Daten oder Zertifizierungen.
Ce certificat est uniquement valable pour le client dont le nom est imprimé sur ce formulaire. Carpenter n'assume pas de responsabilité pour une certification vis-à-vis d'une tierce personne.

Certificate of Analysis

Radcliff Wire Inc. 97 Ronzo Rd., P.O. Box 603, Bristol, CT 06010

Date Shipped: 5/1/2012

PO #: VP125694

Qty. Shipped: 123 LBS-12 BLACK
MIG SPOOLS

Radcliff No.: 124406

Heat No.: QJ769

Customer: CHERRY AEROSPACE
SANTA ANA OPERATIONS
1224 EAST WARNER AVE
SANTA ANA, CA 92705-5414

Country of Origin: FRANCE

Original Mill Source: FRANCE

Size: .006 X .011 X .056 ***

Material: A286 Stainless Steel

Description: SPECIAL SHAPE

Specification: AMS 5731 REV L, AMS 5737 REV P
CHEM ONLY

Notes:

DFAR COMPLIANT
PART# M189.44 REV W
CONSIGNMENT ORDER
NET WGT 123 LBS

Chemical Properties

Al: 0.16%	B: 0.007%	Bi: <0.00002%	C: 0.04%	Co: 0.09%
Cr: 14.9%	Cu: 0.11%	Fe: BAL%	Mn: 1.75%	Mo: 1.23%
Ni: 24.96%	P: 0.016%	Pb: <0.0001%	S: 0.001%	Si: 0.09%
Ti: 2.16%	V: 0.29%			

Tensile: 96 KSI

Rockwell:

MAY 1 2 2012



Certs/Material



A70408

[Signature]

Lisa Platek

Certification Clerk

The material as shipped is free from mercury contamination





B/E Aerospace, Inc.

Page: 1 of 1

CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

FIRM: DART AEROSPACE LTD

PURCHASE ORDER#: PO24930

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
1	100	EA	MS21059L4		5297764-000	ALCOA KAYNAR FULLERT	15653		


Jason Lewis
Vice President of Quality

07/09/14

Alcoa Fastening Systems



Packing Slip



Packing Slip: 9947941537

Page: 1

Bill To: 5574
M & M AEROSPACE
HARDWARE, INC.
P.O. BOX 025263
MIAMI FL 33102-5263
USA

Ship To: (1)
M & M AEROSPACE
10000 N.W. 15TH TERRACE
MIAMI FL 33172

From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
03/31/09	F292511	OEK790			

Line/Rel	Item	QTY	Ordered	Qty To Pack
13-1	BC4400 F5000-4	175,000		79,360

C/I: MS21059L4 *Rer-1*
PO Item #:
*** TSO C-148 APPVD PART. TSO LABEL REQ'D ***

Cust Date: 04/20/09

Kay Date: 02/04/08

Lot: 5297764-000

COO:UNITED STATES

Waybill: _____ ECCN:9A991 Schedule-B Number:7318.16.0000

The export classification appears above. You are responsible for all related export license requirements.

Rer-13
CHEM & PHYS & MFG C OF C REQ
DUAL CERT TO NAS686A4 & F5000-4
BILL LINE 13,14 & 15 TOGETHER

BUYER:CLAUDIA
5-592-5155

PHONE: 30

CERTIFICATE OF CONFORMANCE

This is to certify that all items noted above were produced in conformance with the contract, drawing specifications, and other applicable documents. All required process certifications, chemicals and physical test reports are on file subject to examination. This document must not be reproduced except in full and relates only to the items tested.

Christopher Fredrickson
CHRISTOPHER FREDRICKSON
Quality Manager
Fullerton Operations

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653

Eagle Products: Cage Code 66776

Rosan Products: Cage code 66776

ALL CLAIMS REGARDING THIS ORDER MUST BE REPORTED TO SELLER PROMPTLY. CLAIMS FOR CREDIT OR REPLACEMENT OF PARTS MAY BE LIMITED TO THOSE PARTS FOR WHICH TRACEABILITY HAS BEEN MAINTAINED BY THE BUYER. THE SELLER'S MANUFACTURING LOT IDENTIFICATION NUMBER AND RETURN MERCHANDISE AUTHORIZATION (RMA) NUMBER MUST ACCOMPANY ALL RETURNS. ANY CLAIM BASED ON AN ALLEGED DISCREPANCY IN QUANTITY, QUALITY, ETC. BETWEEN THE GOODS ACTUALLY SHIPPED AND/OR DELIVERED UNDER THESE DOCUMENTS AND THE DESCRIPTION THEREOF IN THESE DOCUMENTS, MUST BE MADE IN WRITING TO SELLER NOT LATER THAN NINETY (90) DAYS AFTER THE SHIPPING DATE APPEARING HEREON. FOR ITEMS CERTIFIED TO BPS-N-70, ALLOY VERIFICATION HAS BEEN PERFORMED ON PARTS WITH A DATE OF MANUFACTURE ON OR AFTER JANUARY 1, 2001. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW.

CUSTOMER'S COPY

Alcoa Fastening Systems



Packing Slip



Packing Slip: 9947941537

Page: 2

Bill To: 5574
M & M AEROSPACE
HARDWARE, INC.
P.O. BOX 025263
MIAMI FL 33102-5263
USA

Ship To: (1)
M & M AEROSPACE
10000 N.W. 15TH TERRACE
MIAMI FL 33172

From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
03/31/09	F292511	OEK790			

Line/Rel Item Description Qty Ordered Qty To Pack

*****ALLOWABLE SHIPPING TOLERANCE +/- 5%
*****CHEM & PHYS & MFG C OF C

REQ "MUST STATE COUNTRY OF ORIGIN WHERE
PARTS WERE MANUFACTURED
ON CERTIFICATION FOR EACH LOT NUMBER" AL
L ITEMS ON THIS PO MUST
BE NEW AND TO THE LATEST REV MFGS NAME &
LOT# MUST APPEAR ON PACKING SLIP ON
ALL PAPER WORK FOR ALL ITEMS.

IF UNDER 150 # SHIP VIA FED EX GROUND SE
RVICE: BILL RECIPIENT ACCT:
0331-0149-0. IF OVER 150 # USE FED X N
AT'L(WATKINS) ACCT. # 018757.
CUST REF: MUST BE THEIR PO # "DO NOT PRE
PAY & ADD TO ANY OF THE ABOVE
METHODS" & "CONSOLIDATE SHIPMENTS WHERE
EVER APPROPRIATE" DO NOT SHIP PARTS
BY ANY OTHER CARRIER THAN THOSE LISTED A

CERTIFICATE OF CONFORMANCE

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Christopher Fredrickson
CHRISTOPHER FREDRICKSON
Quality Manager
Fullerton Operations

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15653 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

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CUSTOMER'S COPY

Alcoa Fastening Systems



Packing Slip



Packing Slip: 9947941537

Page: 3

Bill To: 5574
M & M AEROSPACE
HARDWARE, INC.
P.O. BOX 025263
MIAMI FL 33102-5263
USA

Ship To: (1)
M & M AEROSPACE
10000 N.W. 15TH TERRACE
MIAMI FL 33172

From:
ALCOA FASTENING SYSTEMS
AEROSPACE PRODUCTS
FULLERTON OPERATIONS
800 SOUTH STATE COLLEGE
FULLERTON CA 92831
USA

Order Contact:

Pack Date	Order #	Cust PO	Ship Via	Weight	Pkgs #
03/31/09	F292511	OEK790			

Line/Rel Item Description Qty Ordered Qty To Pack

CERTIFICATION

BOVE, WITHOUT PROPER
WRITTEN AUTHORIZATION FROM M&M
ECCN OR ITAR AND SCHEDULE B NUMBERS ARE
REQUIRED ON PACKER AND
CERTIFICATIONS.
SPECIAL PRICE & LEAD TIME OKAY PER RICHA
RD K. AS WELL AS QTY SCHEDULE.
chem & phys certs

CERTIFICATE OF CONFORMANCE

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CHRISTOPHER FREDRICKSON
Quality Manager
Fullerton Operations

ALCOA GLOBAL FASTENERS, INC.

Kaynar Products: Cage Code 15853 • Eagle Products: Cage Code 66776 • Rosan Products: Cage code 66776

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CUSTOMER'S COPY

**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S.STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.

8130265

Page 1 of 4

Lot No.

5297764-000

Supplier Item No. BG4400		Supplier Part No. F5000-4					
Interchange Part No. F5000-4		Interchange Part No. MS21059L4 Rev. 1		Interchange Part No. NAS1031A4 Rev. 6			
Interchange Part No. NAS1031P4 Rev. 6		Interchange Part No. NAS686A4 Rev. 13		Interchange Part No.			
Manufactured Quantity 89560		Mfg. Date		Generic Description NUT ANCHOR TWO LUG		Thread Size .2500-28	
HEAT TREAT AMS-H-6875		PLATE/COAT AMS-QQ-P-416 TYII CL2		LUBRICATION AS5272 TY I		NON-DESTRUCT ASTM E1444 SAMPLE	
PERFORMANCE NASM25027							
Material Spec. # 1 AMS 5085-G		Mill Heat No. 0483-001-005		Control Heat No. CC15339A		Material Supplier CALSTRIP INDUSTRIES INC	
Material Spec. # 2 AMS 5085-F		Mill Heat No. B22644		Control Heat No. CC14992		Material Supplier CALSTRIP INDUSTRIES INC	

Special Process Requirements:

**THREADS AND GAUGING PER AS8879 AND
ANSI B1.3M SYS. 22
MIN EQUALS BKWY MAX EQUALS INST.**

TEST RESULTS								
TEST	UOM	SAMPLE	RESULT	MINIMUM	MAXIMUM	PASS/	MINIMUM	MAXIMUM
No. Description		Number	Cycle	Value	Value	Fail	Requirement	Requirement
1 - 010 TORQUE TEST 30 lbs. max, 3.5 lbs. min. (1,7,15)	IN#	1	1	25.90	28.90		3.50	30.00
			7	22.70	22.50			
			15	19.30	19.00			
		2	1	29.40	29.50			
			7	18.50	19.30			
			15	16.40	17.80			
		3	1	28.70	28.80			
			7	20.00	19.20			
			15	15.60	17.40			
		4	1	21.00	26.00			
			7	22.80	22.90			
			15	19.40	18.60			
		5	1	18.70	19.90			
			7	17.10	16.30			
			15	18.10	15.90			
		6	1	22.10	23.90			
			7	17.00	18.60			
			15	16.60	22.20			
		7	1	25.00	25.40			
			7	18.80	17.60			
			15	19.10	18.40			

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.


CHRISTOPHER J. FREDRICKSON QA MGR.

ALCOA GLOBAL FASTENERS, INC.

**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S.STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.

8130265

Page 2 of 4

Lot No.

5297764-000

Supplier Item No.

BG4400

Supplier Part No.

F5000-4

TEST	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
----- TEST ----- No. Description								
3 - 020 TENSILE TEST 4580 min lbs	LBS	8	1	17.60	21.10		4580.00	
			7	18.00	17.90			
			15	17.90	18.60			
		9	1	25.80	27.10			
			7	22.20	24.70			
			15	17.60	17.80			
		10	1	22.00	24.00			
			7	23.30	23.40			
			15	21.60	23.50			
		11	1	25.00	24.00			
			7	18.70	20.10			
			15	16.60	18.70			
		12	1	25.00	24.90			
			7	14.70	13.50			
			15	12.00	11.70			
		13	1	22.00	26.00			
			7	18.30	19.20			
			15	19.30	21.20			
		14	1	28.70	28.30			
			7	20.10	25.10			
			15	19.10	18.90			
		15	1	27.60	27.30			
			7	22.20	25.30			
			15	20.20	22.60			
4 - 050 EMBRITTLEMENT	HRS	1	1	4968.00		Pass		
			1	4902.00				
			1	4942.00				
			1	4949.00				
			1	4894.00				
			1	4877.00				
			1	4892.00				
			1	4927.00				
			1	4887.00				
			1	4891.00				
			1	4893.00				
			1	4866.00				
			1	4891.00				
			1	4953.00				
			1	6425.00				

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Christopher J. Fredrickson
CHRISTOPHER J. FREDRICKSON QA MGR.

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**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S.STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.

8130265

Page 3 of 4

Lot No.

5297764-000

Supplier Item No.

BG4400

Supplier Part No.

F5000-4

TEST RESULTS - Continued								
TEST No. Description	UOM	SAMPLE Number	RESULT Cycle	MINIMUM Value	MAXIMUM Value	PASS/ Fail	MINIMUM Requirement	MAXIMUM Requirement
23 HOURS		2	1			Pass		
		3	1			Pass		
		4	1			Pass		
		5	1			Pass		
		6	1			Pass		
		7	1			Pass		
		8	1			Pass		
		9	1			Pass		
		10	1			Pass		
5 - 070 TORQUE-OUT 100 lbs min.	LBS	1	1	100.00			100.00	
		2	1	100.00				
		3	1	100.00				
		4	1	100.00				
		5	1	100.00				
		6	1	100.00				
		7	1	100.00				
		8	1	100.00				
		9	1	100.00				
		10	1	100.00				
		11	1	100.00				
		12	1	100.00				
		13	1	100.00				
		14	1	100.00				
		15	1	100.00				
6 - 080 PUSH-OUT 125 lbs. min.	LBS	1	1	125.00			125.00	
		2	1	125.00				
		3	1	125.00				
		4	1	125.00				
		5	1	125.00				
		6	1	125.00				
		7	1	125.00				
		8	1	125.00				
		9	1	125.00				
		10	1	125.00				
		11	1	125.00				
		12	1	125.00				
		13	1	125.00				
		14	1	125.00				
		15	1	125.00				
7 - 110 HARDNESS	RC	1	1	42.00	44.00			

TEST RESULTS - Continued

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.


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ALCOA GLOBAL FASTENERS, INC.

**Alcoa
Fastening
Systems**



Aerospace Products
Fullerton Operations
800 S.STATE COLLEGE BLVD
FULLERTON, CA 92831

TEST REPORT

NO.

8130265

Page 4 of 4

Lot No.

5297764-000

Supplier Item No.

BG4400

Supplier Part No.

F5000-4

----- TEST -----
No. Description

UOM

SAMPLE
Number

RESULT
Cycle

MINIMUM
Value

MAXIMUM
Value

PASS/
Fail

MINIMUM
Requirement

MAXIMUM
Requirement

HRC 42-46 (per drawing)

Component #

1

Lot Number

5299086-000

Supplier Part No.

F5000-4FB

Supplier Item No.

BG4450

Manufactured Quantity

Mfg. Date

Generic Description

BASKET

Thread Size

Material Spec. #

1

Mill Heat No.

0483-001-005

Control Heat No.

CC15339A

Material Supplier

CALSTRIP INDUSTRIES INC

Component #

2

Lot Number

5301912-000

Supplier Part No.

MS100 .020 X .937 STRIP

Supplier Item No.

081428

Manufactured Quantity

Mfg. Date

02/12/09

Generic Description

Thread Size

Material Spec. #

1

Mill Heat No.

0483-001-005

Control Heat No.

CC15339A

Material Supplier

CALSTRIP INDUSTRIES INC

Component #

3

Lot Number

5295372-000

Supplier Part No.

F5400-4XN

Supplier Item No.

BHA180

Manufactured Quantity

Mfg. Date

Generic Description

NUT FLOATING

Thread Size

Material Spec. #

1

Mill Heat No.

B22644

Control Heat No.

CC14992

Material Supplier

CALSTRIP INDUSTRIES INC

Component #

4

Lot Number

5292852-000

Supplier Part No.

90412-4A

Supplier Item No.

HAE900

Manufactured Quantity

Mfg. Date

09/25/08

Generic Description

Thread Size

Material Spec. #

1

Mill Heat No.

B22644

Control Heat No.

CC14992

Material Supplier

CALSTRIP INDUSTRIES INC

The product identified on this Certificate has been manufactured, tested and unless otherwise noted, conforms in all respects to the applicable drawings, specifications and standards. Complete reports of physical and chemical tests are on file for examination. If no specified customer quality level is required, goods conform to sellers quality level. All Damages Exceeding Price are Excluded. For items certified to BPS-N-70 alloy verification has been performed on parts with a date of manufacturing on or after January 1, 2001. Quality system sampling plan conforms to the requirement of QAP EQ001, QAP EQ002, QAP EQ003. The recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

ALCOA GLOBAL FASTENERS, INC.


CHRISTOPHER J. FREDRICKSON QA MGR.

CERTIFIED TEST REPORT**Calstrip Steel Corporation**

REGISTERED ISO 9001:2000

7140 Bandini Blvd. * Los Angeles, CA 90040-3388
(323)726-1345 * Fax (323)722-8269

Customer: ALCOA FASTENING SYSTEMS	Order Number: S48972 / W60489
Address: P.O. BOX 1186	Customer PO: 220369419
PITTSBURGH, PA 15230	Shipped Date: 02/10/2009
	Packlist ID: 81837
Part ID: 081494-CS	Material Spec: 1050
Description: CR1050 020 X 8.250 X COIL	AMS 5085G, ASTM A827-02,
Drawing #: 081494	MS 100 REV.7
Rev #:	

HeatID: 0483-001-005

CHEMICAL ANALYSIS

CC15339A

C	Mn	P	S	Si	Ni	Cr	Cu	Mo	Resi
0.5080	0.6970	0.0176	0.0029	0.1860	0.0100	0.0600			
W	V	Sn	Ti	Al	Ca	Zr	Co	N	B

MECHANICAL AND PHYSICAL PROPERTIES

Yield	Tensile	Elong %	Hardness	Bend Test	Slit Numbers	# of Coils	Weight
			HRB 72	OK	W60489-1	1	1,621
					W60489-2	1	2,041
					W60489-3	1	2,060
					W60489-4	1	1,736
					W60489-5	1	1,753
					W60489-6	1	1,815
					W60489-7	1	1,639
					W60489-8	1	2,120
Comment: SOURCE- HANKUM (KOREA)						8	14,785

2-10-09 K224

All work on this order has been performed in accordance with the Company's Quality Assurance Manual


 MARIO VARGAS Technical Services

Form #:

Print Date: 2/10/2009

Page: 1

Date Created: Tue Mar 31 21:50:51 2009

MANUFACTURER :  HANKUM CO LTD

TRADE :  HANKUM CO LTD

DATE OF TEST : 2008-10-27

[illegible]

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH RULES OF HIDEKAWA CO., LTD.

[Handwritten signature]
H. R. TOLSON / MANAGER

CHIEF OF INSP. & ASSURANCE PART

CERT#: 8130265

CERTIFIED TEST REPORT**Calstrip Steel Corporation**7140 Bandini Blvd. * Los Angeles, CA 90040-3388
(323)726-1345 * Fax (323)722-8269

Customer: ALCOA FASTENING SYSTEMS Address: P.O. BOX 1186 PITTSBURGH, PA 15230	Order Number: S44725 / W55909 Customer PO: 220338474 Shipped Date: 08/26/2008 Packlist ID: 74932
Part ID: 084415-CS Description: CR1050 .050 X 1.000 X COIL Drawing #: 084415-CS Rev #: 07/16/08	Material Spec: 1050 AMS 5085G, ASTM A827-02, MS 100 REV.7

HeatID: B22644 ✓

CHEMICAL ANALYSIS

CC14992

C	Mn	P	S	Si	Ni	Cr	Cu	Mo	Resi
0.5000 ✓	0.7800 ✓	0.0120 ✓	0.0020 ✓	0.2100 ✓		0.0400	0.0100		
W	V	Sn	Ti	Al	Ca	Zr	Co	N	B
	0.0020	0.0040	0.0030	0.0250	0.0020			0.0052	0.0003

MECHANICAL AND PHYSICAL PROPERTIES

Yield	Tensile	Elong %	Hardness	Bend Test	Skid Numbers	# of Coils	Weight
			HRB 78	OK	W55909-1	13	2,934
					W55909-2	13	2,145
					W55909-3	13	3,302
					W55909-4	13	2,684
						52	11,065
Grain Size	Olsen Test	Spher%	Decarb	Reduct %			
8		100	0				

Comment: SOURCE- ARCELOR MITTAL (FRANCE)

8/27/08 ^{K22}

All work on this order has been performed in accordance with the Company's Quality Assurance Manual.

MARIO VARGAS

Technical Services

Form #:

Print Date: 8/26/2008

Page: 1

Date Created: Tue Mar 31 21:59:51 2009

CERT#: 8130265

0691054515 3137301520

THE-PAYOL -> 9137301820
NADACO STEEL

PAGE 03/03
Page 2 of 4

FORGET THE BOTTLE

●

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BY
NAME
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Arco for Milton

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